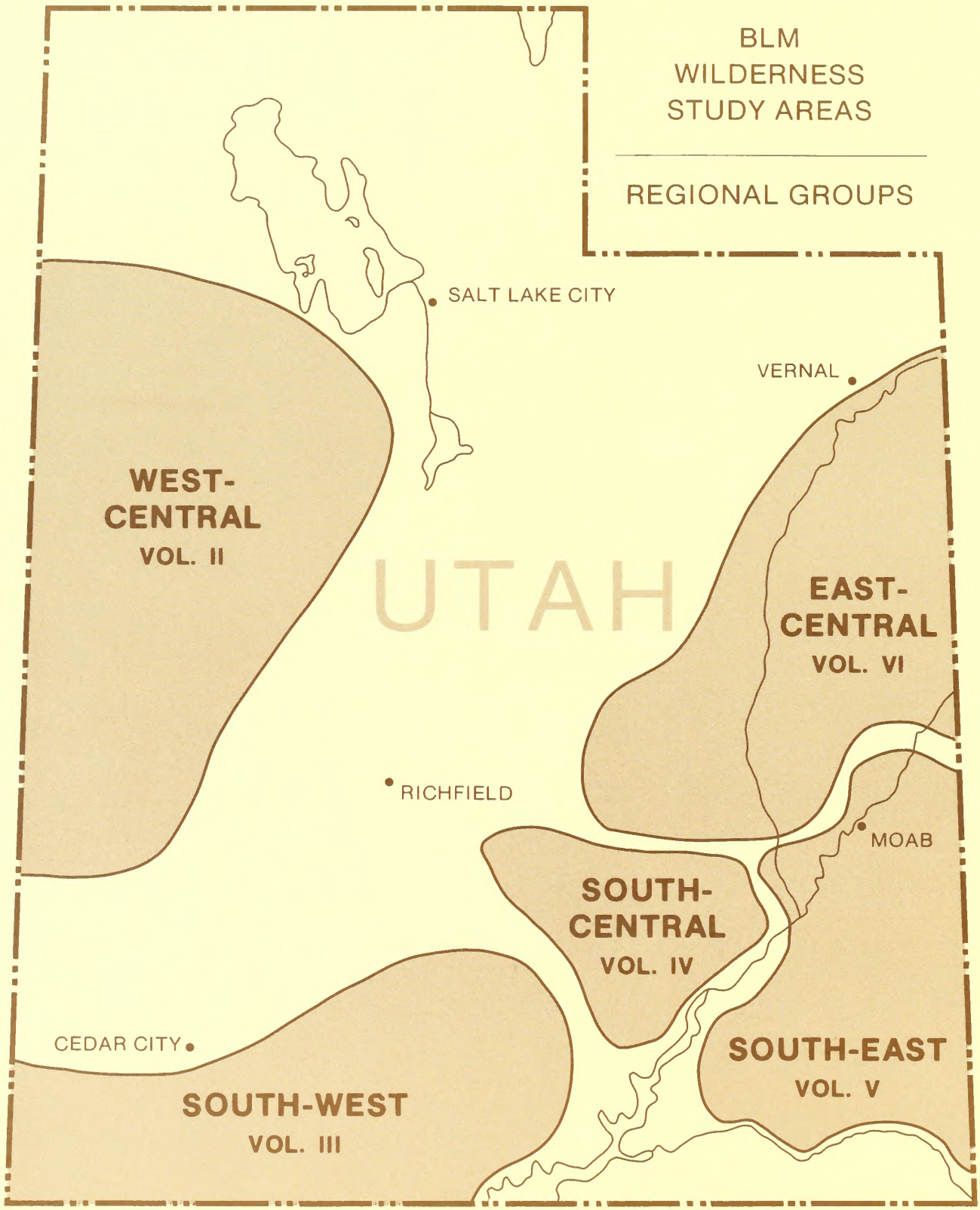
# Utah BLM Statewide Wilderness Draft Environmental Impact Statement

# Volume II West-Central Region

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT




This is **Volume II** of a six volume set. Volume I is the statewide overview. It contains the Glossary and Appendices for all volumes. Volumes II-VI contain analyses for individual Wilderness Study Areas.

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# Volume II West-Central Region

North Stansbury Mountains WSA

Cedar Mountains WSA

Deep Creek Mountains WSA

Fish Springs WSA

Rockwell WSA

Swasey Mountain WSA

Howell Peak WSA

Conger Mountain WSA

Notch Peak WSA

King Top WSA

Wah Wah Mountains WSA

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# North Stansbury Mountains WSA

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# NORTH STANSBURY MOUNTAINS WSA
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# NORTH STANSBURY MOUNTAINS WSA

# (UT-020-089)

## INTRODUCTION

### General Description of the Area

The North Stansbury Mountains Wilderness Study Area (WSA) contains 10,480 contiguous acres of public land located in the northeastern quadrant of Tooele County, 40 miles west of Salt Lake City. This WSA possesses unusual natural qualities of varied topography, deep canyons, steep slopes, vertical ledges, and divergent alpine relief that, in combination, provide majestic vistas, growth zones of varying density, and unique ecological character. Vegetation includes juniper and conifer forests.

The difficulty of access has restricted past uses, thus preserving a primeval character and influence that offer outstanding solitude and dispersed, primitive and unconfined types of recreation. This WSA is basically triangular in shape, 6 miles long and 3 miles wide. Elevation varies from 8,800 feet in the south to 5,200 feet along the northern base of the unit, a 3,600-foot displacement. Landform is angular, displaying extremes of relief. A single ridge, the leading edge of an eastward-tilted faultblock, dominates the landscape and provides the unit with a backbone from which east, west, and north aspects give rise to steep, twisting, V-shaped canyons.

Estimated annual precipitation ranges from 19 inches, along the unit's 5,200-foot baseline contours, to 25 inches at the 8,800-foot south boundary. Temperatures range from a low of -30 degrees Farenheit (F) in the winter to over 105 degrees F in the summer.

### Specific Issues Identified in Scoping

General issues pertaining to more than the North Stansbury Mountains WSA are discussed in Volume I. Issues and concerns raised in public scoping meetings (USDI, BLM, 1984e) and specific to North Stansbury Mountains WSA are responded to below:

1. *Comment:* Development of public water supplies could conflict with this WSA.

   *Response:* BLM has not identified any perennial streams in the WSA. Spring runoff from snowmelt in the WSA could be stored and used for public water supplies; however, no specific plans to do this are known. Access to ground water is more readily available outside the WSA than it is within the unit.

2. *Comment:* The area has locatable mineral potential (lead, zinc, gold, copper, and silver), and development of these would conflict with wilderness values.

   *Response:* The mineral potential is identified and any conflicts with wilderness management are analyzed in this document.

3. *Comment:* Wilderness could be compatible with mining in the North Stansbury Mountains.

   *Response:* The Partial Wilderness Alternative of 10,000 acres (and a boundary variation of 8,700 acres) in this document discusses reduced conflicts between wilderness designation and mining. While the two uses may not be compatible on the same acreages of land, both may be able to co-exist on the mountain.

4. *Comment:* Bird life is abundant in this WSA and should be protected.

   *Response:* Bird life is noted in this EIS and would be protected under the All Wilderness Alternative.

5. *Comment:* Altitudes about 7,000 feet in this WSA could be designated. This would have less impact on water development and forage improvement.

   *Response:* Lands above 7,000 feet would total less than 4,000 acres in a narrow, irregular-shaped pattern. This area by itself would not have the requisite size to qualify for wilderness designation.

6. *Comment:* How would wilderness values be affected by overflights (i.e., Air Force training, commercial air traffic) in this WSA?

   *Response:* Wilderness values (primarily solitude) would be adversely influenced by low-level aircraft overflights. Such overflights would be an annoyance to some wilderness visitors. Further discussion of the Air Force training range is included in the Affected Environment section.

7. *Comment:* The WSA provides unique scenic landforms.

*Response:* This information is noted in the discussion of visual resources.

8. *Comment:* The mountains form a scenic green island of diverse vegetation types in the desolate West Desert. The WSA has solitude, naturalness, and wilderness experiences to be treasured.

*Response:* Vegetation types in the WSA are addressed in this document. Solitude, naturalness, and primitive recreation are discussed under the topic of wilderness values.

9. *Comment:* Should North Stansbury Mountains WSA be designated if the Forest Service area is not designated?

*Response:* The values in the North Stansbury Mountains WSA are independent of the Wasatch National Forest wilderness lands to the south. The Deseret Peak Wilderness in the National Forest was designated on September 28, 1984, by the Utah Wilderness Act. It covers 25,000 acres in the central part of the Stansbury Mountains and is the first Great Basin area to be included in the National Wilderness Preservation System (NWPS). Due to boundary adjustments at the time of designation, the Deseret Peak Wilderness is not contiguous to the BLM North Stansbury Mountains WSA.

10. *Comment:* The compatibility of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964) with other environmental acts (e.g., Clean Air, Water, Noise, etc.) should be analyzed in the north end of Stansbury Mountains.

*Response:* It is not the intent of this Environmental Impact Statement (EIS) to analyze compatibility of or differences in the various environmental laws. This document does address the various environmental topics as they may relate to the wilderness designation alternatives.

11. *Comment:* The mineral potential of the WSA is ranked moderate by Science Applications, Inc. (SAI, 1982). Based on proprietary information, industry representatives believe the potential of the WSA to be high, at least on the east side of the mountain. This information should be considered in the Draft EIS.

*Response:* At this time BLM has not made an independent assessment of all geologic information gathered by private companies, although some of this information is reflected in the discussion of locatable minerals. The SAI (1982) report will be used as the reference on mineral potential for this EIS, but information provided by industry and available mineral investigations reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

# DESCRIPTION OF THE ALTERNATIVES

## Alternatives Considered and Eliminated from Detailed Study

No alternatives were identified for this WSA during scoping other than those analyzed.

## Alternatives Analyzed

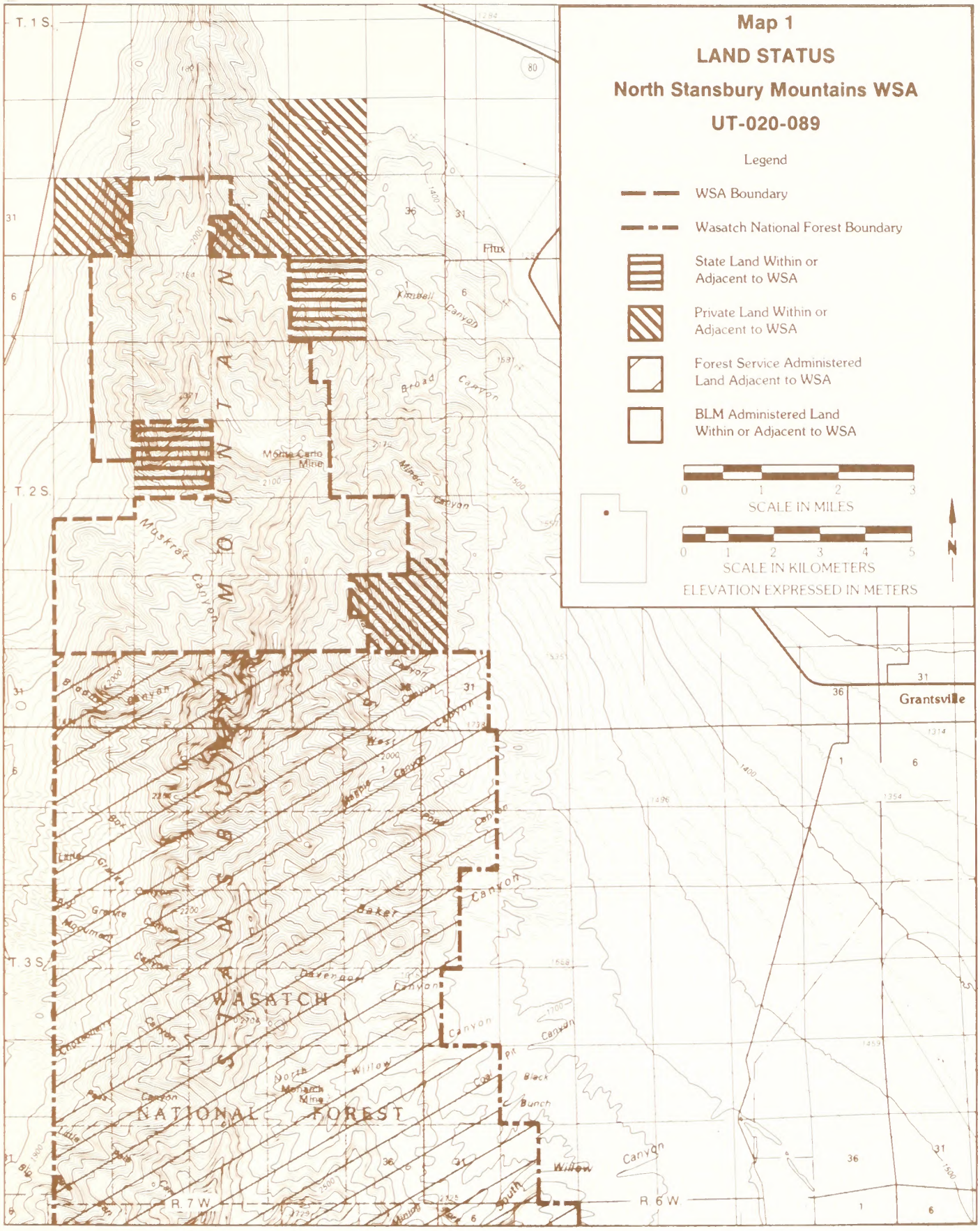
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (10,480 acres); and (3) Partial Wilderness (10,000 acres). The partial wilderness also includes a boundary variation that would result in a wilderness area of 8,700 acres. A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 10,480-acre North Stansbury Mountains WSA would be designated by Congress as part of the NWPS. The area would continue to be managed in accordance with the Tooele Planning Area Management Framework Plan (MFP) (USDI, BLM, 1984c). The State land adjacent to the WSA (refer to Map 1) has not been identified for special Federal acquisition through exchange or purchase; therefore, State lands are analyzed as remaining under State ownership. No State land exists within the WSA.

The following are specific actions that would take place under this alternative:

- All 10,480 acres would be open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on six existing mining claims


Map 1
LAND STATUS
North Stansbury Mountains WSA
UT-020-089
Legend
WSA Boundary
Wasatch National Forest Boundary
State Land Within or Adjacent to WSA
Private Land Within or Adjacent to WSA
Forest Service Administered Land Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
0 1 2 3
SCALE IN MILES
0 1 2 3 4 5
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 1 S.
T. 2 S.
T. 3 S.
R. 7 W.
R. 6 W.
STANSBURY MOUNTAINS
WASATCH NATIONAL FOREST
Grantsville
Flux
Monte Cristo Mine
North Monarch Mine
Broad Canyon
Muskrat Canyon
Miners Canyon
Kimball Canyon
Baker Canyon
Willow Canyon
Bunch Canyon
Black Canyon
Box Canyon
Little Box Canyon
Graphite Canyon
Magnesium Canyon
Chromium Canyon
Davenport Canyon
West Canyon
Mercur Canyon
Pit Canyon
South Willow Canyon

(about 120 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809). Existing leases involving 10,480 acres could be developed under leasing Category 2 (standard and special stipulations) on the entire 10,480 acres. The special stipulations would restrict oil and gas activities between May 15 and July 15 to protect mule deer fawning.

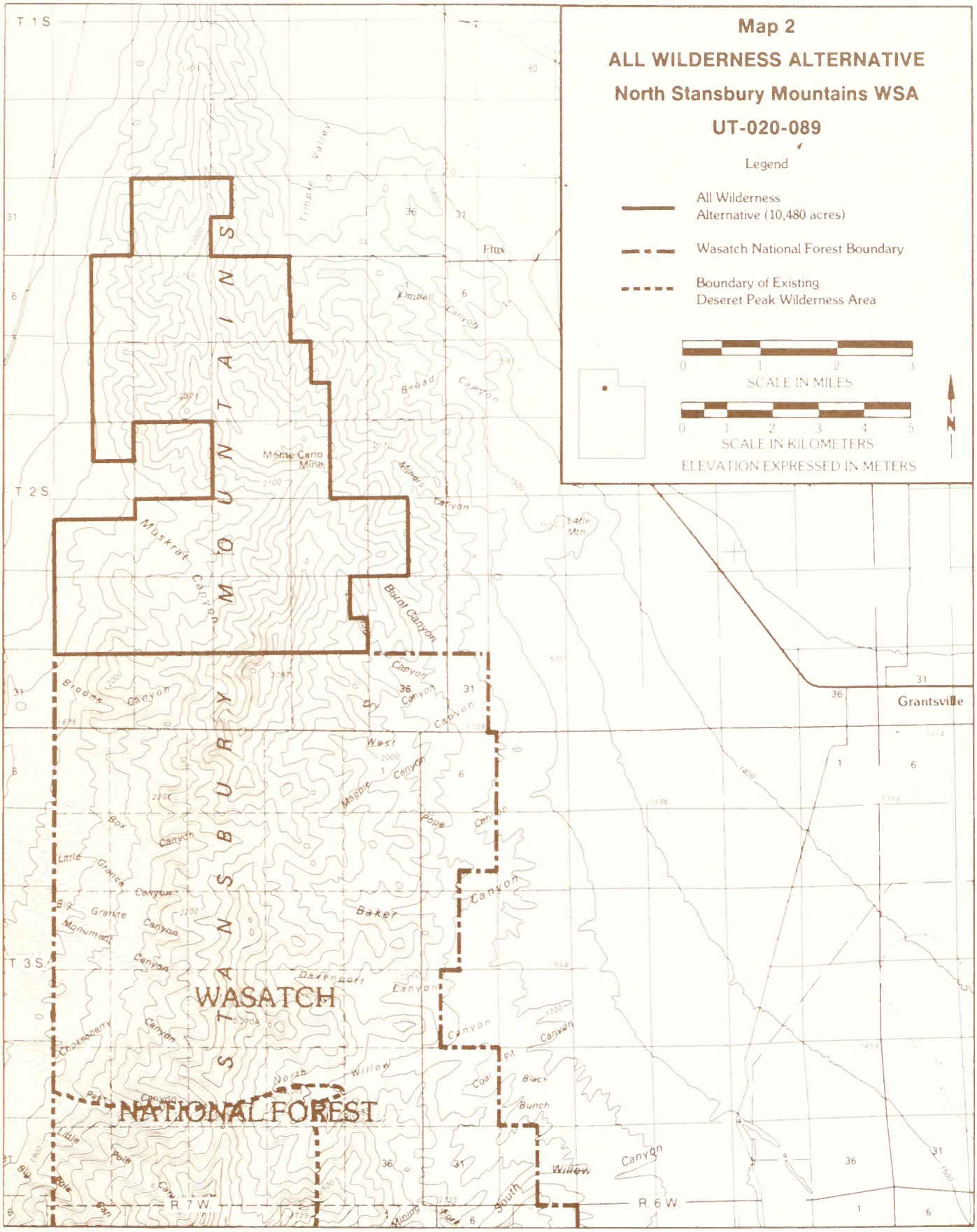
- The present domestic livestock grazing use of the 10,480-acre WSA would continue as authorized in the MFP (495 Animal Unit Months [AUMs]). Although none are now planned, new rangeland developments could be implemented without wilderness considerations. The one existing developed spring at the head of Muskrat Canyon could be maintained in a routine manner, with motorized equipment if needed.
- Developments for wildlife, watershed, water resources, etc. (none are currently planned) would be allowed without concern for wilderness values if in conformance with the MFP. Future introduction of Rocky Mountain bighorn sheep would be allowed as proposed by the Utah Division of Wildlife Resources (UDWR).
- The 10,480 acres, including about 2.0 miles of ways in Muskrat and Burnt Canyons, would remain open for vehicular use on a limited basis (depending on type of vehicle and season of use) in accordance with the Tooele MFP. ORV use in Muskrat Canyon would be seasonally restricted to protect mule deer fawning. No roads or ways border the WSA; however, several unimproved dirt roads and jeep trails dead-end in the foothills around the WSA. A road in Miners Canyon provides the main access to the east side adjacent to the WSA. New access in the WSA could be developed without wilderness considerations.
- The entire 10,480-acre area would continue to be potentially open to woodland product harvest. There is no harvest of forest products at the present time, nor is any planned due to economic and terrain limitations.
- The area would continue to be managed under Visual Resource Management (VRM) Class II (1,440 acres), Class III (3,840 acres), and Class IV (5,200 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken without concern for protecting wilderness values in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 10,480 acres of the North Stansbury Mountains WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981a) to preserve its wilderness character. There are no State sections in the WSA that would be acquired and one State section adjacent to the WSA likely would be exchanged. The figures and acreage given under this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 10,480 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 120 acres of six existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with concern for wilderness values. Existing oil and gas leases involving the entire 10,480 acres would be phased out upon expiration unless a find of oil or gas resources in commercial quantities is shown.
- Present domestic livestock grazing would be allowed to continue as authorized in the Tooele MFP. The 495 AUMs in the WSA would remain available to livestock as


Map 2
ALL WILDERNESS ALTERNATIVE
North Stansbury Mountains WSA
UT-020-089
Legend
All Wilderness Alternative (10,480 acres)
Wasatch National Forest Boundary
Boundary of Existing Deseret Peak Wilderness Area
0 1 2 3
SCALE IN MILES
0 1 2 3 4 5
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
NORTH STANSBURY MOUNTAINS
WASATCH
NATIONAL FOREST
T. 1 S.
T. 2 S.
T. 3 S.
R. 7 W.
R. 6 W.
Grantsville
Flux
Monte Carlo Mine
Muskrat Canyon
Blount Canyon
Broom Canyon
Maple Canyon
Box Canyon
Little Granite Canyon
Big Granite Canyon
Monument Canyon
Baker Canyon
Davenport Canyon
Cherrypatch Canyon
Willow Canyon
Coal Pit Canyon
Black Bunch Canyon
South Willow Canyon
Pole Canyon
Little Pole Canyon
Big Pole Canyon
Triple Valley
Broad Canyon
Miners Canyon
Lake Mtn

presently allotted. After designation, new rangeland developments (there are none now proposed) would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources.

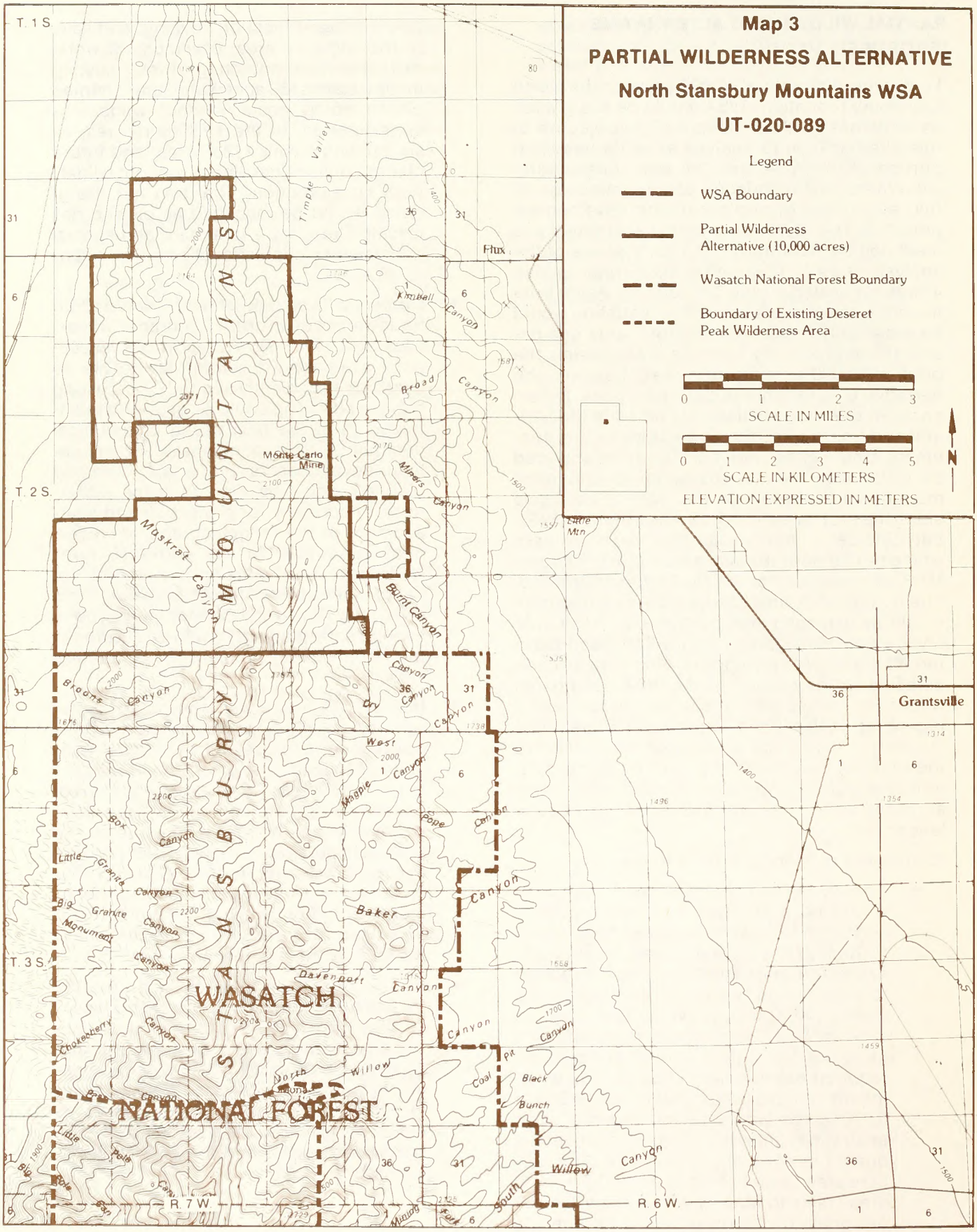
- New water resource facilities or watershed activities not related to rangeland or wildlife management would be allowed after designation only if they would enhance wilderness values, correct conditions presenting imminent hazard to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. No water resource facilities or treatments are presently planned.
- Wildlife developments would be allowed (none now exist or are proposed) as long as certain criteria (refer to Appendix 1) are met to adequately protect wilderness values. Future reintroduction of bighorn sheep would be allowed as proposed by UDWR.
- The entire 10,480-acre area would be closed to off-road vehicle (ORV) use except for users with valid existing rights if approved by BLM in accordance with 43 CFR rules. About 2.0 miles of existing vehicular ways would not be available for vehicular use except as indicated above. None of the WSA boundary follows existing gravel and dirt roads that would remain open to vehicular travel, but the two existing ways within the WSA (Muskrat and Burnt Canyons) would be dead-ended at the wilderness boundary.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 10,480-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed for roads that are dead-ended adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in the military aircraft use of airspace over the WSA.
- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood if accomplished by other than mechanical means. There is no harvest of forest products at the present time, nor is any specifically planned.
- Visual resources on 10,480 acres would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 10,480-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken must be those having the least adverse impact to wilderness values (i.e., those that least alter the landscape or disturb the land surface). It is assumed that firefighting would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources in the 10,480-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. A predator control program would be approved only upon clear showing that removal of the offending predators would not diminish the wilderness values of the area.

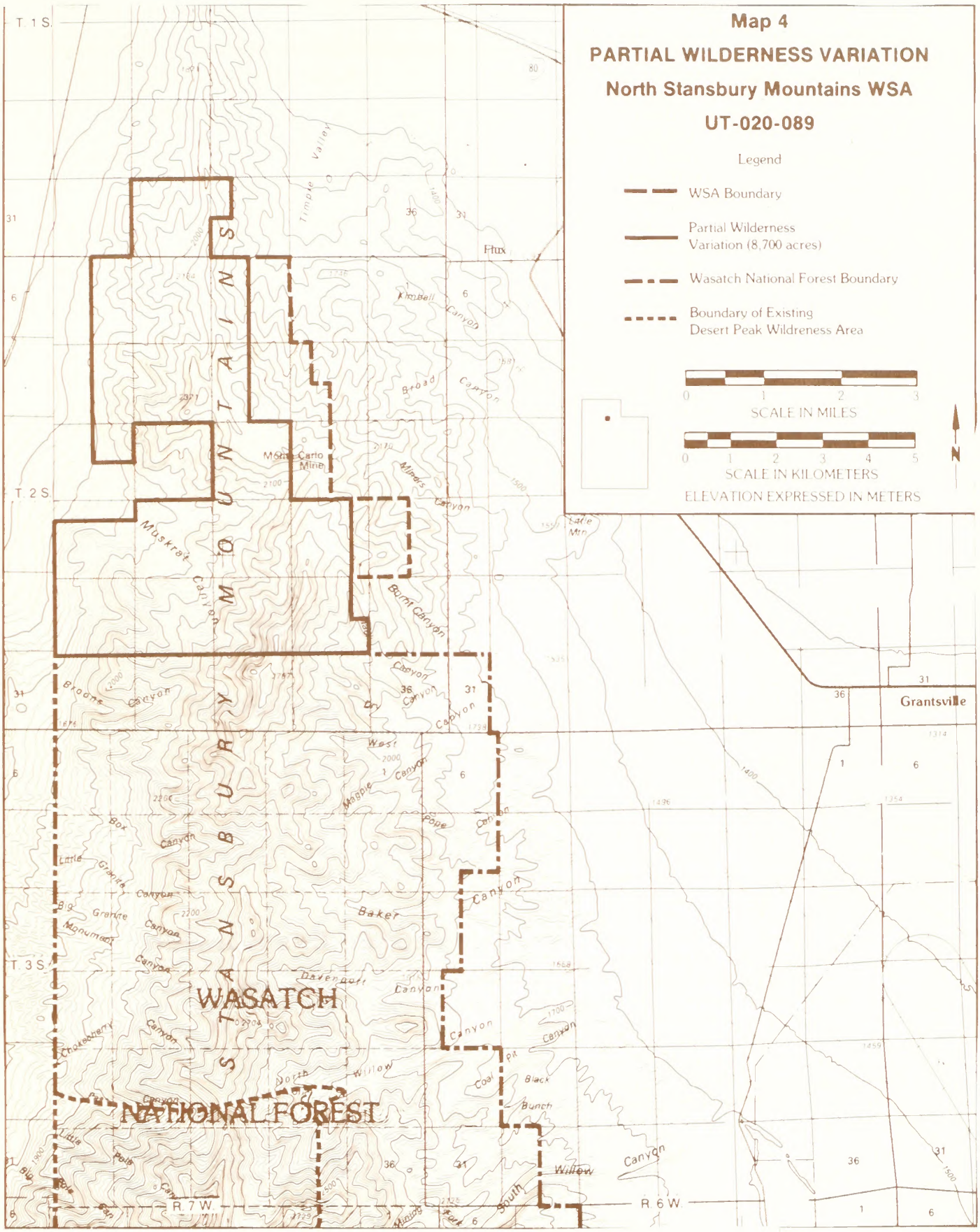
## PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 10,000 acres of the North Stansbury Mountains WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to analyze as wilderness that portion of the WSA with the most outstanding wilderness characteristics and to minimize or fully avoid areas of greatest mineral development potential. The 10,000-acre partial alternative was identified by BLM during the early phase of the analysis and a 8,700-acre variation (refer to Map 4) was suggested during EIS scoping. Aside from minerals, the impacts from either variation would be essentially the same; therefore, only one description is presented. For ease of discussion, the original 10,000-acre figure is used; however, the narrative is applicable to both variations. Differences in the two variations are noted in the Mineral and Energy Resources sections of this document. Under either variation, the acres analyzed as wilderness include the steepest and most mountainous portion of the WSA. The tracts along the east foothill fringe areas within the WSA but outside of that designated as wilderness would be managed in accordance with the Tooele MFP, as described for the No Action Alternative. The 10,000-acre area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy," as described in the All Wilderness Alternative. One State section adjacent to the portion of the WSA designated wilderness would be exchanged. Assumptions regarding analysis and impacts for State lands involved in the Partial Wilderness Alternative are the same as described for the All Wilderness Alternative (refer to Appendix 3). The figures and acreages under this alternative are for Federal lands only.

A summary of specific actions follows:

- The 10,000- or 8,700-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. In the 10,000-acre area, development work, extraction, and patenting would be allowed to continue on two of the existing mining claims (40 acres), provided that they are valid. In the 8,700-acre area, there would be no existing claims and therefore, no required development allowed. The existing oil and gas leases that cover 10,000 or 8,700 acres would be phased out upon expiration unless a find in commercial quantities of oil or gas is shown. The 480-acre area (refer to Map 3) or the 1,780-acre area (refer to Map 4) within the WSA not designated wilderness would be open to future mineral location, leasing, and sale. In the 480-acre area, development work, extraction, and patenting of four existing mining claims (80 acres) and future mining claims could occur without wilderness consideration. In the 1,780-acre area, all six existing claims (120 acres) and future claims could be developed without wilderness consideration. The area not designated would be managed as oil and gas leasing Category 2 (standard and special deer fawning stipulations) on either 480 or 1,780 acres.
- Domestic livestock grazing would continue to occur in the 10,000-acre wilderness area. The 495 AUMs in the 10,000-acre area would remain available to livestock as presently allotted. The existing developed spring could be used and maintained as in the past based on practical necessity and reasonableness. New rangeland developments (none are currently planned) could be allowed in the wilderness if necessary for protection and management of the rangeland and/or wilderness resource. In the 480-acre non-wilderness area, grazing use would not occur since none of the AUMs exist in this area. New rangeland developments (none are currently planned) could be allowed in this area without concern for wilderness values.
- In the 10,000-acre wilderness, new water resource facilities or watershed activities not related to rangeland or wildlife management would be allowed only if enhancing to wilderness, if necessary to correct conditions that are imminently hazardous to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 480-acre area, water resource facility developments would be allowed without concern for wilderness values if in accordance with the MFP. None are now proposed.
- In the 10,000-acre wilderness, wildlife transplants or habitat improvements would be allowed only if they are compatible with wilderness values. In the remaining 480-acre area, wildlife transplants or improvements would be allowed without concern for wilderness values. Transplanting of bighorn sheep into the area has been proposed and would be allowed under this alternative.


Map 3
PARTIAL WILDERNESS ALTERNATIVE
North Stansbury Mountains WSA
UT-020-089
Legend
WSA Boundary
Partial Wilderness Alternative (10,000 acres)
Wasatch National Forest Boundary
Boundary of Existing Deseret Peak Wilderness Area
0 1 2 3
SCALE IN MILES
0 1 2 3 4 5
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 1 S.
T. 2 S.
T. 3 S.
R. 7 W.
R. 6 W.
NORTH STANSBURY MOUNTAINS
WASATCH
NATIONAL FOREST
Grantsville
Flux
Monte Cristo Mine
Timple Valley
Broad Canyon
Muskrat Canyon
Burnt Canyon
Bloom Canyon
Dry Canyon
West Canyon
Maple Canyon
Pope Canyon
Box Canyon
Little Granite Canyon
Big Granite Canyon
Monument Canyon
Baker Canyon
Davenport Canyon
Chokecherry Canyon
Willow Canyon
Coal Pit Canyon
Black Bunch Canyon
South Willow Canyon
Little Pole Canyon
Big Pole Canyon
Lake Mtn


Map 4
PARTIAL WILDERNESS VARIATION
North Stansbury Mountains WSA
UT-020-089
Legend
WSA Boundary
Partial Wilderness Variation (8,700 acres)
Wasatch National Forest Boundary
Boundary of Existing Desert Peak Wildreness Area
0 1 2 3
SCALE IN MILES
0 1 2 3 4 5
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 1 S.
T. 2 S.
T. 3 S.
R. 7 W.
R. 6 W.
NORTH STANSBURY MOUNTAINS
WASATCH NATIONAL FOREST
Grantsville
Flux
Muskrat Canyon
Broom Canyon
Baker Canyon
Willow Canyon
Coal Pit Canyon
Black Bunch Canyon
Box Canyon
Little Granite Canyon
Big Granite Canyon
Monument Canyon
Chokecherry Canyon
Davenport Canyon
Pole Canyon
Big Pole Canyon
Little Pole Canyon
North Willow Canyon
South Willow Canyon
Broad Canyon
Bennett Canyon
Miners Canyon
Dry Canyon
West Canyon
Magpie Canyon
Pope Canyon
Trimble Valley
Mont Carlo Mine
Eagle Mtn.

- The mountains that would comprise the 10,000-acre wilderness would be closed to ORV use. About 1.75 miles of existing ways in Muskrat Canyon would not be available for vehicular use except in situations described under the All Wilderness Alternative. The remainder of the unit, including the existing .25-mile road in Burnt Canyon, would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 10,000-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. The Wilderness Management Plan would not propose any change in use of airspace above the area designated as wilderness.
- Harvest of forest products in the 10,000-acre wilderness would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining 480 acres would be open to woodland harvest, although none is planned.
- Visual resources on the 10,000-acre wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 480 acres would be managed as Class IV, as outlined in the Tooele MFP.
- Within the 10,000-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken must be those having the least adverse impact to wilderness values. Therefore, it is assumed that firefighting would be limited to hand and aerial techniques. In the 480-acre nonwilderness area, measures of control would be taken without wilderness considerations.
- In the 480-acre nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 10,000-acre wilderness, such activity would be allowed by permit provided it was accomplished in a manner compatible with wilderness preservation. Information gathering would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- In the 480-acre area, hunting would be allowed subject to applicable State and Federal laws and regulations. In the 10,000-acre wilderness, hunting would be allowed subject to applicable laws and regulations, but use would be limited to nonmotorized means.
- In the 480-acre area, control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious loss of domestic livestock. In the 10,000-acre wilderness, control of predators would be allowed to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, but only under conditions that would ensure minimum disturbance to wilderness values. Poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 presents the main environmental consequences resulting from implementation of the alternatives. Only those resources that would be affected significantly or differently by the alternatives are listed in the table to provide a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section describes the affected environment. Unless otherwise indicated, information for this section was taken from BLM staff specialists, technical reports, and file documents.

### Air Quality

This WSA is located in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. This

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## NORTH STANSBURY MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness 10,480 Acres) | Partial Wilderness Designation (10,000 Acres) (Proposed Action) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 500 tons of uranium oxide, 25 to 25,000 tons of gold, 500 tons of silver, and 50,000 to 1 million tons of copper. Low temperature gradient geothermal sources also exist and could be developed. | Oil, gas, and geothermal potential likely would not be recovered. Assuming a worst-case analysis, recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. | Although likelihood is low, up to 0.4 million barrels of oil, 15 to 17 billion cubic feet of natural gas, and most or all of the locatable mineral resources could be recovered. The amount of mineral resources that could be recovered would be slightly higher for the 8,700-acre wilderness designation variation of this alternative. |
| Wildlife | About 2 percent of the WSA could be affected by mineral and energy development, which could adversely affect about 8 percent of the deer habitat. | Wildlife would benefit from solitude. | Wildlife would benefit from solitude. About 6 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development which could adversely affect wildlife habitat. |
| Livestock | Grazing of 495 AUMs and maintenance of existing developments would continue. New developments for livestock could be constructed; however, none are now proposed. | Grazing of 495 AUMs and maintenance of existing developments would continue. Little effect on grazing management is expected. Proposed new developments might not be allowed. | Effects would be about the same as for the All Wilderness Alternative. |
| Visual Resources | The quality of visual resources could be impaired on up to 216 acres. | Visual quality could be impaired on 50 acres. | Visual quality could be impaired on 50 acres, including 40 acres in the designated portion. All of the Class A scenery would be in the designated portion and would be protected by the reduced potential for disturbance. |
| Recreation | ORV use would continue on 2 miles of ways at current low levels. Overall recreational use could increase from the present 300 visitor days per year to 450 over the next 20 years. Up to 216 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 2 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV use could continue on 1.75 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## NORTH STANSBURY MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (10,480 Acres) | Partial Wilderness Designation (10,000 Acres) (Proposed Action) |
| Wilderness Values | Wilderness values could be lost on up to 216 acres (2 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 50 acres (less than 1 percent of the WSA) which may be disturbed by the development of valid mineral rights. | Wilderness values would be protected, except on 20 acres which could be disturbed by the development of valid mineral rights. Additional impairment could be expected on 6 percent of the 480 acres not designated. Overall, wilderness values could be lost on less than 1 percent of the WSA. However, all of the areas meeting the standards for outstanding opportunities for solitude and primitive recreation, and 97 percent of the area meeting the standard for naturalness would be in the designated portion and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Tooele County Master Plan* and State of Utah policies and plans. It would not be consistent with the BLM Tooele MFP, which would require amendment if the WSA is not designated wilderness. | This alternative would partially conflict with Tooele County's concept of multiple use. Designation would require amendment of part of the BLM Tooele MFP for the additional 480 acres designated. | The effects of this alternative would be the same as for the All Wilderness Alternative, except the BLM Tooele MFP would not be amended. The 8,700-acre variation would be an amendment to the MFP. |
| Socio-economics | Annual local sales of less than $11,730 and Federal revenues of up to $32,133 would continue. | Annual local sales of less than $11,730 and Federal revenues of up to $693 would continue, but Federal revenues of up to $31,440 would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $30,000. |

represents an air quality classification of very good, and one that can withstand a small increase in pollutant concentrations above existing background levels, or air quality deterioration which accompanies moderate, well-controlled population growth. Visual range averages about 30 to 50 miles during the summer.

Pollutant sources are threefold. Locally, a cement processing plant, located 3 miles east of the WSA's eastern boundary, produces an abundance of limestone dust. Regionally, air quality is affected by mineral extraction plants along the south end of the Great Salt Lake. Perhaps the majority of pollutants originate from the Wasatch Front, 40 miles to the east, which is an air quality nonattainment area.

## Geology

The North Stansbury Mountains WSA is situated on the northern end of the Stansbury Mountain Range, in the Basin and Range Physiographic Province. The range is 30 miles long and 10 miles wide and is typical of this province in that it is a north-south trending range formed by east-west compressional forces. Folds, reverse faults, and normal faults typify the range.

Having an elevation of 11,031 feet at the highest peak, the range contains representative rocks from every Paleozoic period except Permian. With over 27,000 feet of Paleozoic rocks, the range is basically a doubly plunging anticline bounded on the west by a series of normal faults and on the east by a reverse fault.

The Stansbury Mountains also contain Tertiary volcanics, mostly being basalt and latite in composition. Within the WSA there are some small basalt flows and a very small monzanite dike.

Within the North Stansbury Mountains WSA the elevation varies from 5,200 to 8,800 feet. The west side is very steep and rugged, while the east side is slightly less rugged. The area is composed of resistant carbonates and quartzites forming steep ridges and cliffs. Drainages are steep as they plunge from the ridge to the valley floor. Landform is considered interesting.

## Soils

This WSA is composed of three soil associations (USDI, BLM, 1982a). They are, in order of importance in the unit:

1. Lithic Xerollic Calciorthids-Lithic Calcixerolls-Rock Outcrop (80 percent of the WSA). This unit consists of well drained, steep to very steep foothills and mountain slopes, and shallow, very gravelly loam to very cobbly loam. The surface is covered with 30- to 80-percent rock fragments. About 20 percent of this area is rock outcrop.

2. Pachic Cryoborolls-Pachic Cryoborolls North-Pachic Haploborolls (10 percent of the WSA). This unit consists of rolling hills and mountains with steep to extremely steep slopes, and shallow to very deep soils underlain with dolomite, limestone, and sandstone bedrock ranging in depth from 10 to 16 inches.

3. Typic Argixerolls-Calic Argixerolls-Typic Calcixerolls (10 percent of the WSA). This unit occurs on steep to extremely steep mountain slopes, and it consists of cobbly loam to very gravelly clay loam and silty clay loam moderately deep to very deep well drained soils underlain with unweathered bedrock at 31 inches.

Table 2 shows soil erosion conditions throughout the WSA.

**TABLE 2**
**Erosion Condition**

| Classification | Annual Soil Loss per Acre (cubic yard/acre) | Acres | Percent of WSA | Total Annual Soil Loss for WSA (cubic yard) |
|---|---|---|---|---|
| Severe | 5.4 | 838 | 8 | 4,525 |
| Critical | 2.7 | 1,363 | 13 | 3,680 |
| Moderate | 1.3 | 2,620 | 25 | 3,406 |
| Slight | 0.6 | 3,773 | 36 | 2,264 |
| Stable | 0.3 | 1,886 | 18 | 566 |
| Total | | 10,480 | 100 | 14,441 |

Sources: USDI, BLM, 1982a; Leifeste, 1978.

## Vegetation

The North Stansbury Mountains WSA is vegetatively typical of isolated desert mountain ranges scattered across the Basin and Range Physiographic Province.

In the lower elevations, the biotic community is the juniper woodland (no pinyon pine exists in the WSA). This pygmy forest habitat is common to the entire unit on dry, rocky, exposed slopes under 7,500 feet elevation. When not associated with juniper as an understory or transitional entity, sagebrush is a common filler on open

slopes, especially on southern aspects and in the exposed upper gullies extending into the montane zones.

In the transition from juniper to conifer habitat, mountain mahogany is predominantly more abundant than the other recorded subalpine shrub types of currant, bitterbrush, chokecherry, serviceberry, ninebark and mountain snowberry.

From 7,400 to 8,800 feet, the mountaintop, ridgelines, and the one expanse of open mountain meadows in the WSA are vegetated by submontane shrubs, aspen, conifer associations, and grasses mixed with sagebrush. The montane conifer forest is most evident on the north-facing slopes and in the drainage bottoms. Stands of mixed Douglas and white fir, along with limited riparian and canyon floor woodland communities, canopy the north side of Timpie and Mack Canyons and separate exposed walls of quartzite above Muskrat Canyon. An additional stand of Douglas fir covers the upper southwest side of the unit, near the National Forest boundary.

Riparian areas total about 25 acres or less than 0.5 of 1 percent of the WSA (USDI, BLM, 1982a). The dominant species are narrowleaf cottonwood, aspen, and chokecherry. This vegetative type is found in a few locations along intermittent stream courses or near high water tables associated with canyon and alluvial fan outwash. Existing vegetation by acreage is shown in Table 3.

**TABLE 3**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Juniper | 5,760 | 55 |
| Aspen, montane conifer | 660 | 6 |
| Riparian | 25 | 1 |
| Shrubs, grasses, forbs | 3,345 | 32 |
| Barren (rock outcrop, badlands) | 690 | 6 |
| Total | 10,480 | 100 |

Source: USDI, BLM, 1982a.

No threatened, endangered, or sensitive plants have been found in the WSA (Welsh, 1979).

The North Stansbury Mountains WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are listed on Table 4. PNV is the vegetation type that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 4**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Spruce, fir, Douglas fir, forest | 700 | 7 |
| Juniper-pinyon woodland | 9,780 | 93 |
| Total | 10,480 | 100 |

Source: USDI, Geological Survey, 1978.

## Water Resources

Perennial springs and streams are absent in the North Stansbury Mountains WSA. All but one water source found in the WSA consists of intermittent streams that carry snowmelt and thunderstorm runoff during the spring and summer months. Snow cover and ridgeline cornices generally melt and disappear by early July. All streambeds are dry by mid-June.

The only other water resource is a single, intermittent seep that generally flows throughout the month of June and long after all other water sources in the WSA are dry. This seep, located high in the Tintic quartzite cliffs on the west side of the mountain, yields approximately 5 gallons of water per hour, or enough to maintain a constant water level in a 15-foot water trough located in the upper end of Muskrat Canyon. This trough and the 0.5 mile of 1-inch plastic pipe constitutes the only water development in the WSA. Water rights have not been filed for the seep mentioned above.

Irrigation or domestic use of the existing water resource is nonexistent. Potential well development is better suited to alluvial fans located below the WSA boundaries. Although data are not available, ground water within the WSA apparently is good, as evidenced by the quality of the existing seep, the nature of the geologic materials, and the undisturbed conditions.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral

resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

An overall importance rating (OIR) of 3 was assigned to the North Stansbury Mountains WSA by SAI (1982). This rating is based on the favorable geologic setting of the tract for disseminated gold and for porphyry copper, the two most important mineral resources thought to potentially exist within the WSA. The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the national needs for specific minerals, into a summary number that reflects an overall assessment of the resource importance of the WSA. The estimated mineral and energy resource rating summary is given in Table 5.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent investigation report. Reports will be made available to the public and submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider the reports prior to making final wilderness recommendations.

**TABLE 5**

**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Copper | f3 | c2 | 50,000 to 1 million tons |
| Uranium | f2 | c1 | Less than 500 tons of uranium oxide |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c2 | Low temperature gradiant |
| Gold | f3 | c1 | 25 to 500 tons |
| Silver | f2 | c2 | Less than 500 tons |
| Phosphate | f1 | c4 | None |
| Hydropower | f1 | c4 | None |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

## LEASABLE MINERALS

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981a). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

There are no known deposits of leasable minerals within the North Stansbury Mountains WSA. There is no active exploration or drilling for leasable minerals nor has there been any drilling in the past. The entire WSA (10,480 acres) is covered with six post-FLPMA oil and gas leases. No other minerals are leased.

Based on geologic data and characteristics, the only potential leasable resources are oil, gas, and geothermal (SAI, 1982).

### Oil and Gas

The potential for oil and gas occurrence in this WSA has been rated as low. This determination is based on geology, history of exploration, and confidential reports from exploration companies.

Due to the mechanics of formation of the Stansbury Mountains (i.e., faulting and the presence of a small amount of igneous rocks) any traps or reservoir rocks may have been destroyed. If this is the case, the chance for hydrocarbon entrapment would be low with a potential only for small, widely scattered oil and gas pools. The size of recoverable hydrocarbon accumulations in such

an environment is anticipated to be less than 10 million barrels of oil or, if gas, no more than 60 billion cubic feet. It is assumed that oil and gas development probably would not occur due to low potential and terrain limitations.

All 10,480 acres are in oil and gas Category 2—open to leasing with special stipulations to prevent activity within deer fawning areas between May 15 and July 15, and on slopes greater than 30 percent.

### Geothermal

There are no geothermal leases in this WSA. The potential for geothermal resources in the North Stansbury Mountains WSA has been rated as low. This was determined by thermal wells and springs in the vicinity, and information published in the USDI, Geological Survey Open File Report No. 77-602 (SAI, 1982). The well data were published on a 1980 map by Utah Geological and Mineral Survey (SAI, 1982).

SAI (1982) classified the WSA as prospectively valuable for low temperature gradiant geothermal resources. The Utah Geological and Mineral Survey publication showed that all thermal wells and springs in the vicinity (none are located in the WSA) are less than 27 degrees Centigrade (C).

### Other Leasable Minerals

The other common leasable minerals are coal, potash, sodium, and phosphate. There are no known deposits of these leasable minerals or existing leases within the North Stansbury Mountains WSA.

## LOCATABLE MINERALS

The North Stansbury Mountains WSA is within the Free Coinage Mining District (organized in 1895). It covers a single zone of mineralized deposits that lie along the east side of the WSA. There are numerous small prospects and abandoned shafts and adits. From 1933 to 1980, the Free Coinage Mining District produced over 300,000 lbs. of lead, 7,500 lbs. of zinc, 3,450 ounces of silver, 6 ounces of gold, and over 1,000 lbs. of copper (USDI, Bureau of Mines, 1980). The district has two known deposits within or overlapping the WSA boundary. A brief description of each follows.

*Monte Carlo Mine (Township 2 South, Range 7 West, Section 14).* The Monte Carlo Mine is located in Miners Canyon in the Lower Gardner Dolomite. The primary minerals present include galena, cerussite, calcite, plumbojarosite and limonite. The ore is galena embedded in an oxidized groundmass of limonitic quartz and cut with secondary calcite veinlets. The mine entrance is immediately adjacent to, but outside of, the WSA. Some of the lead ore shipped ran 35 to 40 percent lead (Buranek, 1942). The mine is presently inactive. A recent assay (Perry and McCarthy, 1977) had the following results: lead 1.84 percent, zinc 0.46 percent, copper 0.0006 percent, gold 0.003 ounces/ton, and silver 0.07 ounces/ton. Most of the silver, lead, and zinc produced in the Free Coinage Mining District was from the Monte Carlo Mine (USDI, Bureau of Mines, 1980).

*Lead Queen Claims (Township 2 South, Range 7 West, Section 24).* The Lead Queen deposit is located on the south side of Miners Canyon in the Gardner Dolomite. The primary metals mined are lead, zinc, and silver (Messenger, 1980). The first test ore from this deposit was shipped to the smelter in 1943 (USDI, Bureau of Mines, 1980). The present claims were located in 1949, and they have been maintained since that date. Most of the claims and all of the major workings are within the North Stansbury Mountains WSA boundary. No assays or production records are available.

There are two claim groups containing a total of six unpatented mining claims (120 acres) within or overlapping the North Stansbury Mountains WSA. These claims are on the east side of the WSA and are listed in Table 6.

**TABLE 6**
**Existing Mining Claims**

| Name | Location | Metal | Location Date |
|---|---|---|---|
| Lead Queen #1 | T.2S. R.7W., Sec. 24 | lead, silver, zinc | 1949 |
| Lead Queen #2 | T.2S. R.7W., Sec. 24 | lead, silver, zinc | 1949 |
| Lead Queen #3 | T.2S. R.7W., Sec. 24 | lead, silver, zinc | 1949 |
| Lead Queen #4 | T.2S. R.7W., Sec. 24 | lead, silver, zinc | 1949 |
| Carole Ann #1 | T.2S. R.7W., Sec. 3 | lead, silver, zinc | 1979 |
| Carole Ann #2 | T.2S. R.7W., Sec. 10 | lead, silver, zinc | 1979 |
| | T.2S. R.7W., Sec. 11 | | |

Source: USDI, BLM, 1982a.

Two of the claims, Carole Ann No. 1 and No. 2, are situated in the head of Timpie Canyon. The claims were located over previously abandoned workings. The four other mining claims are the Lead Queen Nos. 1 through 4. These claims were located in 1949. Amended location notices were filed in 1979 but, since the boundaries of the claims were not changed, their rights remain tied to the original date of location. Minor development work has been ongoing since well before 1976, so these four claims have grandfathered and probably valid existing rights.

There are known deposits of lead, zinc and silver within the WSA. There is a high potential for additional small deposits of lead, zinc, gold, and silver. There are also deposits of these minerals adjacent to the WSA along with deposits of copper and mercury. All of these minerals (except gold) are on the list of strategic and critical materials. The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need (Federal Emergency Management Agency, 1983). Although listed as strategic, copper is relatively common and supplies currently exceed domestic demand.

#### Uranium

The favorability is low, with an estimate that up to 500 tons of uranium oxide potentially could be contained within the WSA; however, this estimate has a low degree of certainty. There are no known surface or subsurface deposits in the WSA.

#### Copper

If copper deposits exist, they can be expected to contain between 50,000 to 1 million tons of contained copper. No direct data are available to either support or refute the existence of copper in the WSA since there are no surface occurrences, mines, or deposits within the WSA. However, there is known production from the adjacent area.

#### Silver

It is expected that any silver deposits that may exist in this WSA are generally small and scattered. At least one prospect, rock assay, or deposit is known to have shown a positive silver indication in the WSA.

#### Gold

If gold deposits do occur in this geologic environment, they can be expected to contain between 25 and 500 tons of gold. This wide range of possibility is an indication of no direct data to refute or support the existence of gold in this WSA. There are no surface occurrences, mines, or known deposits in the WSA, but the likelihood of disseminated gold exists, based on overall geologic conditions and assays of ore samples from the adjacent area.

#### Other Locatable Minerals

Lead, zinc, and mercury were not rated by SAI, but were given a high rating (known minerals present) by BLM geologists; however, no estimates of potential quantities are available.

### SALABLE MINERALS

Salable mineral materials within the WSA are low quality and consist mainly of riprap-type material located in talus slopes. There are no established material sites within the WSA. The potential for the use of the salable minerals present approaches zero because of the widespread occurrence of higher quality material that is easier to obtain.

## Wildlife

There are approximately 180 species of wildlife in the North Stansbury Mountains WSA. Of these, there are 114 species of birds, 51 species of mammals, and 15 species of reptiles (USDI, BLM, 1982a).

Of the 180 species referred to above, 10 are considered game species by the UDWR (Sparks, 1981). The only migratory game bird is the mourning dove. Small game species include blue grouse, sage grouse, chukar partridge, mountain cottontail, desert cottontail, and pygmy cottontail. The mountain lion can be found in the area and is considered a small game species. The only big game species in the WSA is the mule deer.

There are approximately 2,560 acres of crucial summer mule deer range within the WSA, including 480 acres identified as crucial fawning grounds (USDI, BLM, 1984c). This represents about 4 percent of the crucial summer range in the Stansbury Deer Herd Unit. It is estimated that the crucial range within the WSA provides habitat for about 524 deer (Buffa, 1983b). The entire Stansbury Deer Herd Unit supports an estimated 13,400 deer (USDI, BLM, 1982a).

Several species of furbearers occur within the WSA, the bobcat being the only game species (Sparks, 1981).

Seventeen raptor species use the WSA either for hunting or for nesting activities (USDI, BLM, 1982a). The golden eagle, a sensitive species, nests in the area and is considered a yearlong resident (Benton, 1982).

The only endangered species of wildlife known to occur in the North Stansbury Mountains WSA is the bald eagle (USDI, Fish and Wildlife Service

[FWS], 1980). However, there is no Federally designated critical habitat for this species within the WSA (Buffa, 1983a).

UDWR has proposed transplants of two big game species on the Stansbury Mountains. These are the Rocky Mountain bighorn sheep and the Rocky Mountain elk. The current BLM Tooele MFP does not provide for elk in this area, although it does allow habitat for bighorn sheep (USDI, BLM, 1984c).

There are no vegetation habitat manipulation projects for wildlife planned for the WSA, and potential for such projects is low. There are no wildlife management facilities located in the WSA.

## Forest Resources

The coniferous forest within the North Stansbury Mountains WSA consists of approximately 250 acres of commercial (volume of wood production is at least 20 cubic feet/acre/year) and 410 acres of noncommercial forested lands. All 660 acres are forested with a Douglas fir or a Douglas fir/white fir mix that occurs almost exclusively in 60-to 100-acre stands on the steep, north-facing slopes and draws of Timpie, Mac's, Miner's and Muskrat Canyons. None of the coniferous forest could be logged at a profit. All stands are high on the mountain between 7,000 to 8,800 feet, in terrain inaccessible by roads or ways. All conifer species, commercial or noncommercial, in the North Stansbury Mountains WSA are more valuable for ground cover and erosion control than as a possible source for timber products.

The 5,760 acres of juniper forest within the WSA are light stands estimated as 25 percent or less crown density. Past and present use has been restricted by the rugged terrain and more accessible juniper resources on adjacent lands. There is no present or foreseeable use or benefit to be gained from an individual or commercial juniper cutting operation inside the WSA.

## Livestock and Wild Horses/Burros

Seven ranching operators use the North Stansbury Mountains WSA for a total of 495 AUMs. The North Stanbury Mountains contain portions of three allotments. Table 7 shows livestock-related information for these allotments.

In the Skull Valley Allotment, four operators graze cattle on 4,140 acres (1.54 percent of the total allotment) located along the slopes of the North Stansbury Mountains WSA. Seasonal use occurs in the spring, fall, and winter months. Within this vast 268,800-acre allotment, 4,140 acres comprised of 155 AUMs are located on the slopes of the North Stansbury Mountains WSA.

In the Timpie-Northwest Grantsville Allotment, two operators graze cattle and sheep on 1,410 acres (35.88 percent of the total allotment) located along the north- and east-facing slopes of Timpie Canyon. Seasonal use takes place from November through June 10. Within this 3,930-acre allotment, 1,410 acres comprised of 75 AUMs are located along the north- and east-facing slopes of Timpie Canyon, or that area making up the northeastern boundary of the WSA.

**TABLE 7**
**Livestock Grazing Use Data**

| | Allotment | | |
|---|---|---|---|
| | Skull Valley | Timpie/Northwest Grantsville | Stansbury Mountain |
| Acres of Allotment in WSA | 4,140 | 1,410 | 5,830 |
| Percent of Allotment area in WSA | 1.54 | 35.88 | 84.90 |
| Number of Operators | 4 | 2 | 1 |
| AUMs Within Allotment | 20,119 | 417 | 646 |
| Estimated AUMs Within WSA | 155 | 75 | 265 |
| Percent of AUMs Within WSA | 1 | 18 | 42 |
| Season of Use | Spring, fall, winter | 4/30 to 6/10 | 6/15 to 5/01 |
| Allotment Management Plan (AMP) Completed | No | No | No |
| Estimated Number of Livestock Using WSA | 140 cattle | 70 cattle | 95 cattle, 7 horses |
| Existing Range Developments | None | None | Water trough in south fork of Muskrat Canyon. |
| Proposed Developments | None | None | A new (above-ground) plastic hoseline must be replaced periodically. |

Sources: USDI, BLM, 1983a and 1983c.

In the Stansbury Mountain Allotment, a single rancher grazes cattle and horses on 4,950 acres (84.90 percent of the total allotment). Seasonal use takes place in the summer between June 15 and August 1. Within this 5,830-acre allotment, 4,950 acres consisting of 265 AUMs are located across the top and down the east side of the WSA.

Unsuitable grazing land makes up a part of all three allotments. Land classified as unsuitable is

primarily the steep, poorly vegetated uplands and rocky southern slopes that lack water in the hot summer months and lack access in the snow-bound winter months.

The only range development located in the WSA is a spring or seep development site high in the cliffs above Muskrat Canyon, as noted in the Water Resources section. A way, 1.75 miles in length and passable to four-wheel drive vehicles, is used to gain access to the trough site. There are no other livestock management facilities or stock trails, routes, routines and/or grazing systems in the WSA.

There are no wild horses or burros nor is there Federally designated habitat for these species within this WSA (USDI, BLM, 1982a).

## Visual Resources

The North Stansbury Mountains WSA has moderate to high quality scenery. The topography is primarily rounded and angular, though steep mountain slopes with many rock outcrops exist along the mountains' single crest and the western flank.

The lower-elevation plant community is desert shrub trending into juniper, mountain mahogany, and conifer at the higher elevations, with aspen clumps in some canyons and upper meadows. There are few riparian zones.

The higher elevations of the WSA are rated VRM Class II; the lower elevations are Class III on the east side and Class IV on the west side. Acreages and percentages are indicated in Table 8.

**TABLE 8**

**Visual Resource Characteristics**

| Element | Acres | Percent of WSA |
|---|---|---|
| Scenic Quality | | |
| Class A | 1,300 | 12 |
| Class B | 9,180 | 88 |
| Class C | 0 | 0 |
| Management Class | | |
| Class II | 1,440 | 14 |
| Class III | 3,840 | 37 |
| Class IV | 5,200 | 49 |

Source: USDI, BLM, 1974.

## Cultural Resources

Two small surveys have been completed within the WSA boundary. The area of both surveys, at an elevation of 7,800 to 8,000 feet, is relatively open with black sagebrush, beavertail cactus, scattered mountain mahogany, and juniper.

The first survey, conducted in June 1980, was a quarter-section located near the summit of the range. This area was intensively surveyed as part of the 1-percent random sampling for the Skull Valley-Lakeside Planning Area. Two sites were found in this survey. One site is a discrete lithic scatter, probably being a tool manufacture station related to hunting. There are numerous flakes, one biface basal fragment, and a few long, thin utilized flakes which have been retouched (all of red jasper). This is the only known site eligible for nomination to the National Register of Historic Places. It is representative of high elevation sites that have been found in the Great Basin. It is significant because little is known of what part high elevation sites played in settlement and subsistence patterns during the Archaic and Fremont periods. Also, this site spans both of these periods. Further study and comparison with other high elevation sites will improve understanding of subsistence patterns and perhaps support or refute concepts of intersite variation among hunters and gatherers. Recent finds in other areas point to the possible importance of these high elevation sites in subsistence patterns, even though they have not yet been seriously studied.

The second site is another lithic scatter located .25 mile west of the first site. It is judged to be a tool retouch area and is hunting related. Two isolated points found between the two sites tentatively date as Archaic/Fremont and Shoshoni.

The second survey was conducted in September 1981 to provide clearance for seismic testing. It was a linear survey (east-west) .50 mile in length, crossing within .25 mile of the first survey. No cultural resources were found.

Two other sites have been found at 5,000 feet on the west slope: one site on the boundary of the WSA and the second just outside the boundary. The first of these is a rock shelter that has been extensively disturbed by pot hunters. The cultural affiliation is unknown. Remains found at the site included burned bone, charcoal, a large flake of quartzite, a metate, a mano, and a scraper of white chert. The second site is a limestone cave that has also been heavily pot hunted. This site is affiliated with the Archaic period, based on an unfinished Gypsum point found near the cave entrance. Other remains consist of burned bones and fire-cracked rock. Both of these sites are considered significant due to the scarcity of such sites found in Tooele County and because the remaining undisturbed areas within the sites could provide information related to Great Basin aboriginal subsistence patterns.

There is a high probability that undiscovered significant sites could exist in the WSA, with the most sensitive areas being the mountaintops, flat ridges, and saddle areas.

## Recreation

Recreation use in this WSA has not been sampled or documented to support estimates of recreation use or activity preferences in the North Stansbury Mountains. BLM field personnel estimate that recreational use in the area primarily occurs on the first weekend of the deer hunt and the opening day of the upland game bird season. About 95 percent of the use is related to hunting. Throughout the rest of the year, few people (5 percent of the use) venture into the area, mostly for dayhiking. An estimated 300 visitor days per year are attributed to all recreation activities now occurring in the WSA. Because of road access, recreation use tends to concentrate around the Miners and Muskrat Canyon areas with their 2 miles of vehicular ways. The entire WSA is open to limited ORV use. Administrative limitations involve type of vehicle and season of use restrictions. On a practical basis, steep terrain provides the foremost limit to ORV use.

Opportunities for high quality primitive recreation use exist for the following activities: hunting, hiking, backpacking, horseback riding, camping, and nature study or photography.

## Wilderness Values

### SIZE

This WSA consists of 10,480 acres at the northern end of the 30-mile-long Stansbury Mountain Range. It is basically triangular in shape, approximately 6 miles long and 3 miles wide. Elevation varies from 8,800 feet in the south on the National Forest boundary to 5,200 feet along the base of the unit (a 3,600-foot difference).

### NATURALNESS

As described in the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980), this WSA is basically a pristine area. There are no signs that man has spent time in the interior of the unit. The only intrusions consist of a mining road, adit, shaft, and 2 miles of ways which enter lower portions of Miners and Muskrat Canyons. These intrusions were found to be substantially unnoticeable. About 10,280 acres meet the *Wilderness Act* standards for naturalness and 200 acres do not meet the standards.

### SOLITUDE

Rising from the Salt Desert as a north-south trending mountain ridge, the WSA has been cut and shaped by north, east, and west drainage systems. A feeling of vastness within the unit does not exist. Both topography and vegetative screening exist in scattered locations. The ridgeline of the WSA is flanked by steep, sparsely vegetated slopes which are separated by rugged canyons. North exposures of the canyons have a conifer or mixed conifer-riparian woodland that provides a feeling of isolation or seclusion. Outstanding opportunities for solitude are found among the forested, rocky shoots that lead from Muskrat Canyon to the slopes west of Onaqui Peak; in the canyons to the south end of Timpie Valley and Mack Canyon; and areas along the ridgeline, where aspen, mountain mahogany, and Douglas fir offer seclusion. A person choosing to spend a week in these parts of the WSA will probably not see another person during the entire time.

Outstanding opportunities for solitude are present throughout the majority (about 5,810 acres) of the unit. There are, however, areas within the WSA (about 4,670 acres) that lack screening. They are conspicuously open and unscreened by vegetative or topographic cover, and there is little seclusion or opportunity for recreationists to share the terrain with others and yet go undetected in these areas.

The Stansbury Mountains are within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the area 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range which includes the North Stansbury Mountains WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the North Stansbury Mountains WSA and are subsonic in this area. Military flights are occasional off-site intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

The North Stansbury Mountains WSA offers outstanding opportunities for hiking, horseback riding, and sightseeing. Although most current use is related to hunting, the other most popular recreation use seems to be single dayhiking along the ridgeline to the summit. Multi-day hiking (backpacking), if not now occurring, is a possibility. A combined BLM/National Forest Stansbury Mountain adventure awaits those who can walk the 30-mile range from Timpie on the north to Johnson's Pass on the south. No trail now connects these two points.

Horseback riding is possible on the central portion of the area. Riders might meet with some difficulty in the extreme north along the narrow Timpie Ridge and in the south above Mack Canyon, but the meadows that mantle the north and south ridge above Miner's Canyon offer subalpine vegetative contrasts, relatively gentle slopes and, if approached through Miner's or Muskrat Canyons, easy horseback access. Hunting on foot or horseback has been popular in the WSA for years.

The unit is primarily a single promontory from which a myriad of scenic vistas are possible. Ecological values are overtly displayed as the unit rises through a spectrum of at least three growth or life zones. Scenic vistas on all sides and unique views of the Great Salt Lake to the north are offered from the Stansbury Mountains.

Opportunities for primitive recreation were judged outstanding on 5,760 acres of the WSA and less than outstanding in the remainder of the area (4,240 acres).

## Land Use Plans and Controls

The entire North Stansbury Mountains WSA consists of public land. No State or private inholdings are present. State lands are found adjacent to the WSA in two locations and private lands are adjacent in four locations (refer to Map 1). There are no existing rights-of-way or pending right-of-way applications within the WSA.

The North Stansbury Mountains WSA is currently managed under the BLM Tooele Planning Area MFP (USDI, BLM, 1984c). That plan includes a preliminary indication of wilderness designation for 10,000 acres of the WSA.

South of the North Stansbury Mountains WSA is the Grantsville Unit of the Wasatch National Forest. The Forest Plan recommends that the National Forest adjacent to the WSA be managed as wilderness; however, the Utah Wilderness Act of 1984 did not include that area for wilderness designation. The designated Deseret Peak wilderness is about 5 miles to the south of the WSA. The land use plan for the Wasatch National Forest is to be amended to designate the land intervening between the Deseret Peak wilderness and the North Stansbury Mountains WSA for semi-primitive nonmotorized uses (Hubbard, 1985).

UDWR has plans for introduction of bighorn sheep and elk into the Stansbury Mountains.

The *Tooele County Master Plan* (Mountain Area Planners, 1972) is not specifically directed to the North Stansbury Mountains WSA. Land use in Tooele County is generally discussed throughout the Master Plan as wise multiple and cooperative uses. Wilderness is not addressed. The Master Plan states:

> "The major part of unincorporated land in Tooele County is shown on the Master Plan Maps as multiple-use areas. It is proposed that these lands be subject to conditional use permits for all uses; that primary uses allowed be forestry, stock grazing, mining, and recreational activities in appropriate areas; that emphasis of management practices be placed on conservation and wise use of natural resources, to permit and encourage improvement in soils stability, plant cover, water quantity and quality, and scenic beauty."

## Socioeconomics

### DEMOGRAPHICS

The population within a 20-mile radius of the North Stansbury Mountains WSA is concentrated entirely within the boundaries of Tooele County and localized in three valleys surrounding the Cedar and Stansbury Mountain Ranges.

From 1960 to 1980, the population of Tooele County grew from 17,868 to 26,033, an overall increase of 45.7 percent and an average annual increase of 2.28 percent. Table 9 presents comparative population data for Tooele County. The population of Tooele County is heavily concentrated (about 85 percent) in Tooele Valley, or that northeastern corner of the county referred to on the table as the Tooele-Grantsville Division. This area is 6 to 15 miles southeast of the North Stansbury Mountains WSA. The remaining 15 percent of Tooele County's population is scattered throughout the county.

The population density of Tooele County is 3.76 people per square mile. Population centers within about 100 miles of the North Stansbury Mountains WSA include Salt Lake City-Ogden and Provo-Orem, with a combined population of approximately 1,155,000.

**TABLE 9**
**1960-1980 Population**
**Tooele County, Utah**

| | 1980 | 1970 | 1960 |
|---|---|---|---|
| Tooele County | 26,033 | 21,545 | 17,868 |
| Dugway/Wendover Division | 3,041 | — | — |
| Dugway | 1,646 | 2,357 | — |
| Wendover Town | 1,099 | 781 | 609 |
| Onaqui Division | 791 | 679 | 646 |
| Ophir Town | 42 | 76 | 36 |
| Rush Valley Town | 356 | 541 | 511 |
| Vernon Town | 181 | — | — |
| Tooele/Grantsville Division | 22,201 | — | — |
| Grantsville City | 4,419 | 2,931 | 2,166 |
| Stockton Town | 437 | 469 | 362 |
| Tooele City | 14,335 | 12,539 | 9,133 |

Source: USDC, Bureau of the Census, 1981.

## EMPLOYMENT

Table 10 shows nonfarm employment by source for Tooele County. The five most contributing sources of employment in Tooele County for the fourth quarter of 1982 were: (1) government, 61.28 percent; (2) manufacturing, 10.09 percent; (3) trade, 8.77 percent; (4) mining, 8.15 percent; and (5) services, 6.28 percent.

**TABLE 10**
**1982 Nonfarm Employment**
**Tooele County, Utah**

| | Tooele County | | |
|---|---|---|---|
| Economic Sector | 1982 | 1981 | Change |
| Civilian Labor Force | 9,247 | 9,033 | 2.4 |
| Employed | 8,300 | 8,500 | -2.4 |
| Unemployed | 947 | 533 | 77.7 |
| Percent of Labor Force | 10.2 | 5.9 | |
| Percent of Labor Force Seasonally Adjusted | 11.0 | 6.3 | |
| Total Nonagricultural Jobs[2] | 10,163 | 10,432 | -2.6 |
| Mining | 828 | 1,084 | -23.6 |
| Contract Construction | 170 | 174 | -2.3 |
| Manufacturing | 1,025 | 1,095 | -6.4 |
| Durable Goods | 103 | 112 | -8.0 |
| Nondurable Goods | 922 | 983 | -6.2 |
| Trans., Commercial, Public Utilities | 221 | 215 | 2.8 |
| Trade | 891 | 886 | 0.6 |
| Wholesale Trade | 21 | 22 | -4.5 |
| Retail Trade | 870 | 864 | 0.7 |
| Fin., Ins., & Real Estate | 162 | 158 | 2.5 |
| Service | 638 | 610 | 4.6 |
| Government | 6,228 | 6,210 | 0.3 |
| Federal Government | 5,146 | 5,158 | -0.2 |
| State Government | 58 | 56 | 3.6 |
| Local Government | 1,024 | 996 | 2.8 |

Source: Utah Department of Employment Security, 1982a.

The high government figure results primarily from civilian employees at military installations in the county. Farm employment represents a very small percentage (less than 2 percent) of the county employment and income (University of Utah, Bureau of Economic and Business Research, 1979). Mining employment in the county has been declining in recent years.

## INCOME AND REVENUES

Table 11 shows representative income for nonfarm activities in Tooele County. Farm-related income for the county totals about $3 million per year (University of Utah, Bureau of Economic and Business Research, 1979).

**TABLE 11**
**1981 Nonfarm Wage Income and Employment**
**Tooele County, Utah**

| Economic Sector | Number of Firms | Total Employment | Total Wages | Average Monthly Wage | Percent of Total Wage Revenue |
|---|---|---|---|---|---|
| Total Nonagriculture | 379 | 10,240 | 175,360,374 | 1,427 | 100 |
| Mining | 8 | 1,000 | 28,000,720 | 2,333 | 15.96 |
| Construction | 50 | 192 | 3,341,247 | 1,446 | 1.91 |
| Manufacturing | 17 | 1,121 | 24,017,519 | 1,786 | 13.70 |
| Transportation, Communication, Public Utilities | 22 | 234 | 4,497,570 | 1,605 | 2.56 |
| Trade | 108 | 910 | 7,059,425 | 646 | 4.02 |
| Finance, Insurance, Real Estate | 26 | 159 | 1,625,581 | 851 | 0.92 |
| Services | 85 | 564 | 4,684,540 | 692 | 2.67 |
| Government | 63 | 6,060 | 102,133,772 | 1,404 | 58.24 |
| Federal | | 5,003 | | | |
| State | | 60 | | | |
| Local | | 997 | | | |

Source: Utah Department of Employment Security, 1982b.

Economic-related activities in North Stansbury Mountains WSA include mineral exploration, livestock production, and recreation sectors of Tooele County's economy. This is commodity production in the WSA from Federal land only.

Six noncompetitive oil and gas leases entirely cover this 10,480-acre WSA. Federal revenue generated by these leases amounts up to $3 per acre per year ($31,440 per year). All six leases are current and will continue to be current until 1988.

The WSA has six mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Mineral production or mine development in the North Stansbury Mountains WSA is limited to a single, sometimes active, mining operation in Burnt Canyon

along the WSA's southeast boundary. The mine is not presently producing but assessment work is being continued.

Seven stockmen seasonally graze cattle and horses on 495 AUMs scattered across the three grazing allotments found in the WSA. At the current approximate fee of $1.40 per AUM (as of March 1, 1983) these seven ranchers pay $693 per year in Federal revenue to graze their livestock within the WSA boundaries. Marketing of livestock which use the WSA contributes to local income. About $9,900 of livestock sales, including $2,475 in ranchers' return on investment and labor, are attributed to the AUMs in the WSA.

Woodland products are not presently being taken from the unit; therefore, no revenue is generated from this resource.

Recreation has not proven to be a significant income producer. Hunting accounts for nearly all of the current recreation use in the WSA. Revenue generated by the sale of hunting licenses to people planning to specifically hunt this WSA is considered to be insignificant. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced (Dalton, 1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The total recreational use for North Stansbury Mountains is estimated as about 300 visitor days per year, resulting in a total estimated annual expenditure of $1,230 related to the WSA. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Tooele County.

Table 12 summarizes current local income and Federal revenues related to the North Stansbury Mountains WSA. Appendix 9 identifies the multipliers used to estimate local income and Federal revenues.

**TABLE 12**

**Income (Sales) and Revenues**

| Source | Estimated Annual Local Sales[1] | Estimated Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $31,440 |
| Mineral Production | $ 600 | None |
| Livestock Grazing | $ 9,900 | $ 693 |
| Woodland Products | None | None |
| Recreational Use | Less than $ 1,230 | None |
| Total | Less than $11,730 | Up to $32,133 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from: (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

It should be noted that this alternative represents the current management situation within the North Stansbury Mountains WSA. Basically, the public land is open to all uses with most proposals for various uses being evaluated during an application-environmental analysis-permit process.

Under the present management system, the wilderness values in the area have been perpetuated. However, factors probably more important to the area's wilderness value preservation are the remote location and rugged topography of the range and the limited demands made on its resources to date.

The major changes that could occur in the area would be related to future mineral exploration and development, should economic or other conditions change to create greater demand for the mineral resources of the area. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown but probably would be moderate to high for selected locatable minerals. The following is a worst-case analysis based on the assumption that minerals would be developed sometime in the future and cause the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; copper, 30 acres, and uranium, 20 acres. (Appendix 10 lists mineral-related surface disturbance assumptions and estimates.) Silver, gold, lead, zinc, and mercury are included with the acreage listed for copper. This would result in a total disturbance of up to 216 acres for a worst-case analysis. It is predicted that most of this disturbance would be concentrated in the foothill area on the east side of the WSA.

### AIR QUALITY

The WSA would continue to be designated as a Class II area under the PSD regulations. Some degradation in air quality could occur; however, the likelihood of this occurring in the area in the near future is low. A possible surface disturbance of 216 acres from mineral and energy exploration and development would result in only minor increases in fugitive dust emissions. Air quality in the WSA would continue to be adversely affected on occasion by poor conditions in the Wasatch Front nonattainment area.

### GEOLOGY

No impacts to geology are expected because surface disturbances associated with mineral and energy exploration and development activities would probably not exceed 216 acres. This would not result in any major changes in the geologic structure of the area.

### SOILS

Analysis indicates that up to 216 acres could be subject to surface-disturbing activities related to energy and mineral development. This would result in increased erosion where disturbance occurred. About 46 percent of the WSA is in severe, critical, and moderate erosion classes. Assuming that all disturbance would occur in areas with critical erosion class and that erosion condition would increase one class (worst-case analysis), soil loss on the 216 acres would increase from 583 cubic yards/year to 1,166 cubic yards/year. This would be an increase of 583 cubic yards/year over current amounts. Accelerated soil loss would decrease as reclamation occurred. Considering the current amount of natural soil erosion (approximately 14,441 cubic yards/year in the WSA), the accelerated erosion on 216 acres would be a relatively small increase (4 percent) and the effects would likely be noticeable only in localized areas.

### VEGETATION

Analysis indicates that up to 216 acres could be subject to surface-disturbing activities related to mining claim assessment work, mineral development, geothermal, and oil and gas exploration.

Development could permanently modify small portions of existing and potential vegetation types by direct removal of mostly juniper trees and by changing soil characteristics. Even with intensive rehabilitation, this type of disturbance can cause long-term or permanent changes in composition, cover, age class, forage production, and appearance of affected vegetation (Koehler and Redente, 1980, and USDA, Forest Service, 1979). However, the anticipated maximum acres disturbed would not result in a major change in any vegetation type. No threatened, endangered, or sensitive plant species are known to occur in the WSA.

### WATER RESOURCES

Due to low precipitation, lack of water in this WSA, and projected land uses, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 1,166 cubic yards of additional annual soil loss from surface disturbance.

There is no perennial surface water in the North Stansbury Mountains WSA. The ground water and associated water tables that likely underlie the WSA are expected to be unaffected.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

This alternative would have little impact on energy or critical mineral development. The entire area would remain open to exploration for and development of energy and mineral resources.

*Oil and Gas*

The potential for recovery of up to 3 million barrels of oil and up to 18 billion cubic feet of natural gas exists within the WSA. These oil and gas resources could be explored and developed under existing leases, subject to Category 2 stipulations, and would not be affected by the adoption of this alternative. Approximately 160 acres of surface disturbance would take place if exploration and development were to occur. However, due to the small size and scattered nature of potential deposits, no development is expected under this alternative.

*Geothermal*

The low gradiant geothermal resource could be developed under this alternative. As much as 6 acres could be disturbed from geothermal exploration and development activities; however, because there is no demand for the low temperature heat source, no development is expected under this alternative.

**Locatable Minerals**

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. As much as 50,000 to 1 million tons of contained copper, up to 500 tons of uranium oxide, up to 25 to 500 tons of gold, and up to 500 tons of silver could occur within the North Stansbury Mountains WSA. Recovery of the locatable minerals in the WSA, with the exceptile of gold, would contribute to the Nation's stockpile of strategic and critical materials.

Approximately 50 acres could be disturbed due to exploration and development of these locatable minerals. However, the likelihood of development of uranium is thought to be minimal because of economic considerations (e.g., transportation, low potential, etc.). Actual combined recovery of copper, gold, and silver is somewhat speculative, at least in the near future, considering the current low copper market. However, it is expected that these minerals would be mined in the more distant future. Future recovery of lead, zinc, and mercury from the WSA also is expected as these minerals are known to exist in the WSA.

**Salable Minerals**

Although allowable under this alternative, salable mineral materials are not expected to be developed and, therefore, would have no associated impacts.

**WILDLIFE**

An estimated disturbance of 216 acres (about 2 percent of the WSA) through mineral exploration and development would not significantly disrupt wildlife in the WSA as a whole. Mule deer, bighorn sheep (if introduced), chukar partridge, and mobile nongame animals would be displaced from the areas of localized disturbance for the lifetime of these activities. Some less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels. The golden eagle, bald eagle, and other birds of prey would avoid areas of active disturbance while activities were taking place; however, no significant long-term impacts are expected to occur to any of these species.

Under this alternative, 2,560 acres of crucial mule deer summer range would be subjected to the likelihood for surface-disturbing and other activities. Within this area of crucial mule deer summer range, 216 acres could be directly affected by surface-disturbing activities associated with mineral and energy development. This acreage represents approximately 8 percent of this habitat in the WSA. Based on the assumption that mule deer are evenly distributed throughout this range, the loss of 216 acres could reduce the deer population by 41 animals within the WSA.

Six acres of bighorn sheep habitat could be subject to surface-disturbing activities associated with valid existing mineral rights. This acreage represents less than 1 percent of the total bighorn sheep habitat on the North Stansbury Mountains WSA. Because bighorn sheep are wilderness animals and are extremely sensitive to human activity and encroachment (Gallizioli, 1977), the success of any bighorn sheep transplant program could be somewhat affected by increased mining activities. Transplanting of elk into the WSA would not be allowed according to the BLM Tooele MFP.

The only threatened and endangered species, the bald eagle (a winter resident), would not be significantly affected.

**FOREST RESOURCES**

There are about 250 acres of commercial coniferous forest in the WSA, as well as 5,760 acres of juniper forest. Existing forest products in the WSA are unlikely to be utilized because of inaccessibility and the availability of juniper forest on more accessible lands. Therefore, although allowable, it is unlikely that any loss or harvest of forest products would occur in the WSA.

**LIVESTOCK**

Present livestock use and related access could continue without regard for wilderness values. No additional range improvements are probable.

Domestic livestock grazing would continue as authorized in the MFP or current planning document. The 495 AUMs in the WSA are currently allocated to seven livestock permittees. Although none are now planned, additional roads, trails, or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. Few, if any, changes in livestock management techniques are expected. Mineral development is not expected to eliminate any AUMs in the WSA because the area most likely to be mined is not grazed by livestock. Therefore, this would not affect current livestock use of the area.

### VISUAL RESOURCES

Although the entire 10,480 acres could be subject to surface-disturbing activities, it is expected that the disturbance would be concentrated on 216 acres on the east side of the WSA. This disturbance could have a negative impact on the visual character of these lands, but the impact would be minimal due to the small acreage and the concentrated nature of the lands involved. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity.

Even after rehabilitation, some permanent localized degradation would be expected. However, potential mineral development areas have relatively low scenic values; thus, no significant impact to visual resources would be expected under this alternative. VRM objectives for the Class III area on the east side of the WSA probably would be met.

### CULTURAL RESOURCES

Disturbance of 216 acres by mineral exploration and development under this alternative could impact cultural resources through loss and vandalism due to increased access. None of the known sites are in the area on the east side of the WSA which is most likely to be disturbed. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance. Inadvertent loss or damage could occur in the disturbed areas. The overall effect on cultural resources is expected to be minimal.

### RECREATION

Use and user trends would probably continue without much change. Recreational uses would be light and mostly oriented to deer and upland game hunting activities. Based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from the current 300 visitor days per year to about 450 at the end of 20 years.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, 216 acres of mineral-related exploration and development are possible. However, minimal adverse impacts to recreation values are expected due to the small acreage of potential disturbance and relatively low recreational values on the east side of the WSA where the mining activity is expected to be concentrated. The entire WSA, including the 2 miles of ways in Muskrat and Burnt Canyons, would remain open for vehicular use with seasonal restrictions. Roads and ways created for energy and mineral exploration and development could slightly improve access into the area for nonprimitive recreation.

### WILDERNESS VALUES

The present system of management (the No Action Alternative) seems to have served to perpetuate the wilderness values in the area, which have proven favorable to the area's consideration for wilderness. Another factor relative to wilderness value preservation is the steep terrain of the WSA and the limited demands on its resources to date.

If the WSA were not designated, the wilderness values in the future would not receive the degree of protection afforded by the application of the "Wilderness Management Policy," and management would be under the existing Tooele MFP. Projected mineral exploration and development, expected to be concentrated on 216 acres, could have adverse impacts on wilderness values of the WSA. Under a worst-case analysis, the entire WSA would be subject to oil and gas, geothermal, and locatable mineral exploration and development; however, wilderness values are unlikely to be diminished in the immediate future. Existing land uses are expected to continue on Federal land much as they have in the past.

Surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation only in a concentrated area on the east side of the WSA. Therefore, even though nondesignation would not provide the protection from mineral-related impacts afforded by application of the "Wilderness Management Policy," wilderness

values are unlikely to be greatly diminished over most of the area. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The *Tooele County Master Plan* does not specifically address this area but generally recommends multiple use in the county. This alternative would be consistent with that plan because present or expected land uses in the WSA would not change. The No Action Alternative would not be in conformance with the current BLM Tooele MFP which tentatively recommends 10,000 acres in the North Stansbury Mountains WSA as potential wilderness. A decision not to designate this area as wilderness would constitute an amendment to that plan. This alternative would be consistent with State of Utah plans and policies which emphasize economic return.

### SOCIOECONOMICS

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development of minerals within the WSA is low, except for locatable minerals that have a moderate to high development potential, depending on market conditions. If the minerals (e.g., lead, zinc, mercury) in the WSA were developed, it could lead to a small to moderate increase in employment and income for Tooele County.

There would be no livestock-related economic losses because the existing grazing use (495 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce $9,900 annually in livestock sales and $2,475 of ranchers' return to labor and investment.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Recreational use in the area is estimated to increase by only 150 visitor days per year at the end of 20 years, with overall recreation-related expenditures assumed to average $4.10 per visitor day, for a total increase of $675. Since only a portion of this would contribute to the local economy, recreation-related expenditures attributable to the WSA would not be significant to the Tooele County economy.

Federal and State revenues would not be reduced by this alternative. There are no acres in the WSA open to oil and gas leasing that are currently not leased, and lease payments of $31,440 would continue (at least through 1988 when the existing leases expire). Oil and gas leases could be reissued. Half of these monies would be allocated to the state, a portion of which could reach the local economy. Collection of livestock grazing fees ($693 per year at $1.40 per AUM) would continue.

## All Wilderness Alternative (10,480 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 10,480-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing. The entire area would be placed in leasing Category 4 (closed to leasing). The entire area, including the 2 miles of existing vehicular ways in the WSA, would be closed to vehicular use except for approvals by BLM as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that existing mining claims would eventually be explored and developed, causing an estimated 50 acres of disturbance on the 120 acres of claims within the WSA. No additional claims would be located. It is also assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas or geothermal resources would not be allowed. Appendix 10 lists surface disturbance assumptions and estimates for the WSA.

Because potentially disturbed areas for this alternative would be smaller than under the No Action Alternative (50 vs. 216 acres), the impacts from mineral exploration, development, and surface disturbance on air quality, geology, vegetation, water, livestock, wildlife, cultural, and forest resources under the All Wilderness Alternative would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce the potential for disturbance. Other effects on these resources due to changes in management are discussed below.

### SOILS

Up to 50 acres are likely to have surface-disturbing activities related to assessment work and mining development. This could result in increased erosion in these areas. Assuming that all disturbance would occur in areas with critical erosion class (worst-case analysis), soil loss on

the 50 acres would increase from 135 cubic yards/year to about 270 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. The effects of such a small increase likely would be imperceptible. This would be 448 cubic yards/year less than with the No Action Alternative.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

All 10,480 acres are under six post-FLPMA oil and gas leases. However, no exploration or development of oil and gas is presently occurring within the WSA. Potential for the occurrence of oil and gas resources is rated as low.

Existing post-FLPMA leases could be developed subject to the nonimpairment stipulations issued at the time of leasing; however, under wilderness designation these stipulations would, in practicality, prevent any substantial development. It is unlikely that existing leases would be developed or a showing of commercial quantities made prior to their expiration date, and expired leases would not be reissued.

Exploration for and development of a potential resource of up to an estimated 3 million barrels of oil and 18 billion cubic feet of natural gas considered recoverable could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in a significant loss of potential oil and gas recovery.

*Geothermal*

Because of no local demand for the low temperature heat source, no development is expected even without wilderness designation. No impacts are, therefore, expected to the geothermal resource as a result of wilderness designation.

### Locatable Minerals

The North Stansbury Mountains have been rated high for the potential occurrence of small deposits of the critical minerals copper, lead, and zinc. Designation could eliminate or severely constrain possible future recovery of these minerals. The significance of this impact relative to the critical minerals stockpile is uncertain. Although this is a historic mining district and there is currently mining activity in the general area, activity has been sporadic and production light over the last several decades.

There are known commercial deposits of gold, silver, copper, lead, zinc, and mercury in or near the WSA. Potential for their occurrence in the WSA is moderate to high. The potential exists for up to 1 million tons of contained copper, under 1 million tons of lead and zinc ore, up to 500 tons of gold and under 500 tons of silver to go unrecovered.

The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed before designation. In that case, the potential for recovery would be foregone. Considering the mineral resources present in the WSA, their likelihood for development, and their availability elsewhere, the alternative would have little or no overall short-term impact on minerals; however, it could result in long-term mineral resource impacts, with mineral extraction foregone.

### Salable Minerals

Salable mineral materials in the WSA are of marginal quality and are not expected to be used even without wilderness designation. Wilderness designation would, therefore, have little effect.

## LIVESTOCK

Present domestic livestock grazing would continue as authorized in accordance with the Tooele MFP. The 495 AUMs currently allocated in the WSA are used by cattle and horses owned by seven livestock permittees. Little effect on the management of livestock grazing is expected, except some limitations on vehicular use could occur.

Although none are now planned, future roads or other livestock management facilities could be restricted to preserve wilderness values.

## VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the entire area to future mineral leasing and mining claim location.

Under this alternative, the possible mineral-related surface disturbance would be reduced from 216 acres to 50 acres, associated with development on 120 acres of mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality could be degraded and VRM Class I management objectives would not be

met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. Even though the potential for development of mining claims is moderate to high, existing claims are concentrated on the east side of the WSA and visual quality would probably not be reduced in the WSA as a whole.

### CULTURAL RESOURCES

Under this alternative, cultural resources on up to 50 acres could be subject to loss from surface-disturbing activities associated with mineral exploration and development.

There is a slight potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity and the overall impact would be positive.

### RECREATION

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined additional increase in primitive recreational use above the baseline rate. There is a high potential for increased use due to the relative proximity of the WSA to Wasatch Front (Ogden-Salt Lake City, Orem-Provo) population centers. Management provided through a Wilderness Management Plan would endeavor to provide for dispersion of future recreation use and, due to the terrain variation and configuration of the WSA, the quality of the primitive recreation experience probably would not be negatively affected by modest amounts of increased use. Access to the WSA would continue to be primarily from Muskrat Canyon on the west side and Miners Canyon on the east side of the Stansbury Mountains. These areas could at times be somewhat congested as vehicle parking and staging areas for wilderness visitors.

### WILDERNESS VALUES

Wilderness designation would contribute to the preservation of the area's wilderness values. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the entire area to future mineral leasing and location.

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 216 acres under the No Action Alternative to 50 acres for development of valid mining claims under the All Wilderness Alternative. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Because there are only 120 acres (about 1 percent of the WSA) under mining claims, potential for mineral-related disturbance of wilderness values is low.

Solitude would be protected on the 5,810 acres that have outstanding opportunities and the 4,670 acres that do not meet the standards, except where reduced by activities related to valid mining claims.

Opportunities for primitive recreation (judged outstanding on 5,760 acres) would also be protected from potential impacts resulting from new mining claims and mineral development, as these activities would be prohibited; however, primitive recreation could be adversely affected by development of existing claims on the east side of the WSA.

Recreation trends in the WSA would be altered slightly by the All Wilderness Alternative as ORV use in the bottom of Muskrat Canyon would be eliminated. The current ORV use is so low that this impact would not be significant. Elimination of ORV use would reduce disruption of solitude and surface disturbance and would benefit primitive recreational activities and values in the canyon.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

Wilderness is not specifically addressed in the *Tooele County Master Plan*. Public land in the North Stansbury Mountains is designated in the plan as an area suitable for multiple use. In general, wilderness designation would complement the recommended management emphasis for this area, but it would conflict with the concept that the lands be conditionally available for all uses. Wilderness designation would, by law, limit or preclude many uses of the area. This alternative would conflict with the Plan's multiple-use concept because restrictive conditions would be

placed on mineral development, oil and gas leases would be phased out, and future leasing and location of minerals would not be allowed.

The current BLM Tooele MFP does not provide for wilderness designation of the entire 10,480 acres in the WSA. Designation of all of the North Stansbury Mountains WSA as wilderness would be an amendment to the MFP for 480 acres.

### SOCIOECONOMICS

Designation of this WSA as wilderness is not expected to result in any changes to existing patterns and trends of population, employment, and local income distributions.

Because of restrictions placed on the use of resources under wilderness designation there could be losses of up to $31,440 annually in mineral revenues currently provided by oil and gas leases in the WSA because these leases would expire and not be renewed.

Minerals and income from existing claims could be obtained, unaffected by wilderness designation. Precluding new exploration and development of other minerals not in existing claims would not alter existing local economic conditions, but could reduce future economic conditions as compared to potential mineral development under the No Action Alternative. The potential for future mineral development is moderate to high; therefore, wilderness designation of the entire 10,480-acre WSA could prevent development of the full mineral potential of the area and prevent related future economic gains of an unknown amount. Any local income related to assessment of future mining claims also would be lost.

Livestock use and ranchers' income would continue as at present (refer to Table 12). No potential range improvements to generate increased livestock income have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use an unknown amount. Even if recreation use were to increase as much as 10 times the present use, the economic value would only be $12,300 (at an average of $4.10 per visitor day statewide). With such expenditures spread among Tooele County and the communities of the Wasatch Front, the increase to the local economy would not be significant.

Motorized (ORV) recreational use of the WSA is expected to decrease only slightly as a result of the closure of 2 miles of existing ways. This would have no economic effects because it would only change the location of visitor ORV parking, now related primarily to hunter access.

No woodland product harvesting, rights-of-way, or permits would be eliminated through wilderness designation and, therefore, would have no socioeconomic effects.

## Partial Wilderness Alternative (10,000 or 8,700 Acres)

## (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 10,000-acre (or 8,700-acre) area designated as wilderness and the 480-acre (or 1,780-acre) nondesignated area are discussed in the Description of the Alternatives section. The differences in area between the two variations in the Partial Wilderness Alternative are shown on Maps 3 and 4.

It is assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities and that such leases would not be renewed or re-issued. Further, it is assumed that development of locatable minerals on the east side of the WSA would occur in the future. The only significant difference between designation of 10,000 acres or 8,700 acres is the relative amount of potential conflict with development of locatable minerals.

With the 10,000-acre Partial Wilderness Alternative, two existing mining claims would be within the area designated and it is assumed that 20 acres of surface disturbance would occur on these claims. These two claims are at the head of Timpie Canyon and are located over previously abandoned workings. In the 480 acres not designated are four existing claims, where it is assumed that 30 acres of surface disturbance would occur. These four claims are located on the south side of Miners Canyon. Associated with these claims are a short mining access road, adit, and shaft.

With the 8,700-acre variation, all six of the existing claims and the 50 acres of surface disturbance noted above would not be within the area designated. The 1,780-acre area not designated would contain all existing mining claims and known mineral deposits and these would be available for further prospecting. The analysis of the No Action Alternative, based on 216 acres of surface disturbance, shows that full development of potential resources with associated surface disturbance

would not significantly affect air quality, geology, vegetation, water, forest, livestock, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative, which is based on only 50 acres of surface disturbance. Impacts under this alternative would be essentially the same as impacts described for the All Wilderness Alternative.

The following analysis describes the differences, where measurable, between the Partial Wilderness, No Action, and All Wilderness Alternatives. Impacts to soils, visual resources, and recreation would be the same as the All Wilderness Alternative. The only resources where differences are worthy of note are Mineral and Energy Resources, Wilderness Values, Land Use Plans and Controls, and Socioeconomics.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. The 480 or 1,780 acres not designated could have existing leases renewed or reissued without wilderness considerations. Depending on which acreage is used, this would allow extraction of an estimated 4 to 15 percent of the 3 million barrels of oil or 18 billion cubic feet of natural gas that are estimated to be recoverable. The remaining 85 to 95 percent of potentially recoverable oil and natural gas (2.6 to 2.9 million barrels of oil and 15 to 17 billion cubic feet of gas) could be foregone. It is concluded that, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant gain or loss in recovery of the oil and gas resource.

*Geothermal*

This alternative would not be expected to have any impact to geothermal resources due to the low probability of development even without wilderness designation.

### Locatable Minerals

Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981a).

It cannot be determined how much of the potentially recoverable locatable minerals in the WSA are within the 10,000-acre area that would be designated as wilderness under this alternative. The initial BLM analysis concluded that conflict with most of the locatable mineral resource could be avoided with the 10,000-acre Partial Wilderness Alternative by nondesignation of 480 acres. However, much greater certainty for avoiding conflict with mineral resources could be achieved by nondesignation of 1,780 acres. The 1,780 acres are believed to cover essentially all of the mineralized zone on the east side of the North Stansbury Mountains WSA. Therefore, it is concluded that the 10,000-acre Partial Wilderness Alternative could have some limiting effect (but less than the All Wilderness Alternative) on future development of locatable minerals (i.e., particularly gold, silver, copper, lead, and zinc) but that the 8,700-acre variation would have little or no effect (identical to the No Action Alternative) on the future availability and extraction of these minerals. With this conclusion it is noted that the exact limits of the mineralized geological deposit along the east side of the WSA are generally, but not precisely, defined.

## WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 10,000 (or 8,700) acres that would be designated wilderness. Designation and management of the Partial Wilderness Alternative or its variation as wilderness would preserve the wilderness values of size, naturalness, solitude, and outstanding opportunities for primitive and unconfined recreation. All of the 5,810 acres that provide outstanding opportunities for solitude and the 5,760 acres with outstanding opportunities for primitive recreation would be within the portion of the WSA designated as wilderness. No development of leases within the designated portion is foreseen under this alternative. The possible mineral-related surface disturbance within the designated portion would range from 20 to 0 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Mineral-related disturbance, including access, could eliminate solitude, naturalness, and the opportunity for primitive and unconfined recreation on the affected areas (and adjacent to the designated portion of the WSA) but would probably not reduce these values in the designated portion as a whole. Sights, sounds, and activities within and adjacent to the 480-acre (or 1,780-

acre) area that would not be designated could result in loss of solitude and primitive recreational values; however, the area involved has low existing values (does not meet the standards) for such purposes at present.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The 10,000-acre Partial Wilderness Alternative would be consistent with the BLM Tooele MFP, while the 8,700-acre variation would constitute a plan amendment. This alternative and its variation would be inconsistent with the *Tooele County Master Plan* as explained for the All Wilderness Alternative.

### SOCIOECONOMICS

Partial designation of this WSA is not expected to result in any changes in existing patterns and trends in population, employment, and local income distribution. Socioeconomic impacts related to recreation would be the same as with the All Wilderness Alternative, as would impacts to livestock grazing. The 495 AUMs would remain available for livestock use at the current level of use.

Up to $30,000 per year in Federal oil and gas leasing revenue (up to $5,340 less than with the All Wilderness Alternative) would be lost as leases were phased out. On the other hand, economic gains of an unknown amount could be generated as a result of future development of locatable minerals. Future economic gains could be greater with the 8,700-acre variation than with the 10,000-acre Partial Wilderness Alternative.

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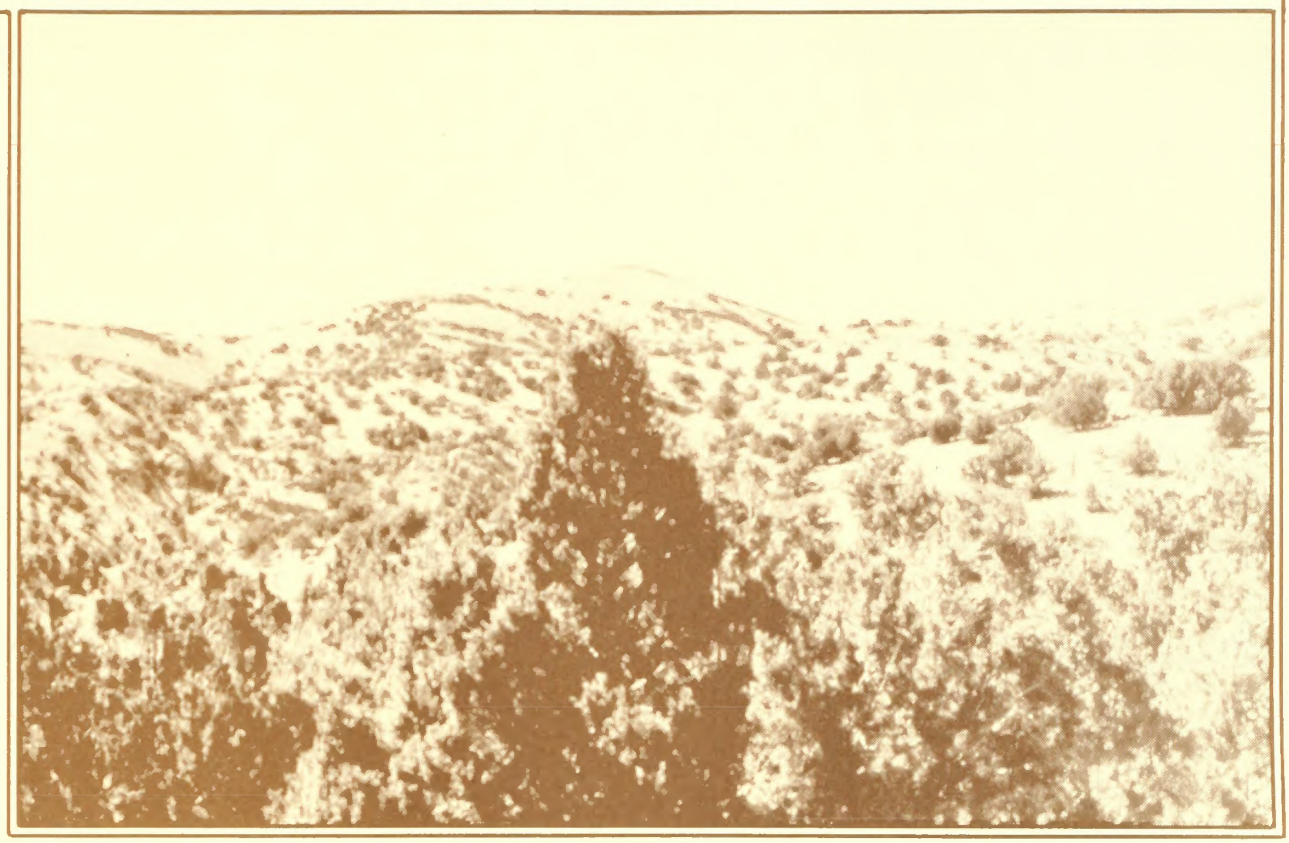
# Cedar Mountains WSA



# CEDAR MOUNTAINS WSA

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# CEDAR MOUNTAINS WSA
# (UT-020-094)

## INTRODUCTION

### General Description of the Area

The Cedar Mountains Wilderness Study Area (WSA) contains 50,500 contiguous acres of public land located in east-central Tooele County, approximately 65 miles west of Salt Lake City and 40 miles west of the community of Tooele, Utah. The unit consists of public land in the central portion of the Cedar Mountains, between Hasting's Pass on the north and Rydalch Pass on the south.

The Cedar Mountains WSA consists of a long, single ridgeline, typically Basin and Range in geologic structure. At the elevation of 5,000 feet, the mountains gradually become more pronounced as outwash fades into a smooth, almost inconspicuous blending of canyons, washes, and gullies which narrow without prominent twisting. The mountain's crest varies from the 7,712-foot Cedar Peak to numerous 6,000-foot elevations scattered along a 20-mile-long ridgeline.

Vegetation along the lower slopes of the Cedar Mountains consists of a mixture of shadscale/cheatgrass/halogeton ground cover. Sagebrush, rabbitbrush, and wheatgrasses combine with individual juniper trees at approximately 5,000 feet to add an obvious vegetative texture to the landscape.

At higher elevations (above 5,800 feet), the main ridge and south-facing slopes are often bare and unshaded, with occasional stands of juniper trees.

Estimated annual precipitation ranges from 8 inches along the lower contours of the unit to 16 inches along the 7,000-foot crest of the mountain. Temperatures range from a low of -30 degrees Farenheit (F) in the winter to over 100 degrees F in the summer.

### Specific Issues Identified in Scoping

General issues pertaining to more than the Cedar Mountains WSA are discussed in Volume I. Issues and concerns raised in public scoping meetings (USDI, BLM, 1984e) and specific to Cedar Mountain WSA are responded to below:

1. *Comment:* Does this WSA meet wilderness criteria?

*Response:* The Cedar Mountains met the wilderness inventory criteria; consequently it was designated for further study. This further study is the basis for this Environmental Impact Statement (EIS). During EIS scoping, BLM presented a preliminary indication of areas considered suitable or unsuitable for wilderness designation. For each WSA, this was based on site-specific analysis drafted in one of the five Utah BLM districts. The indication of suitability was made public prior to the EIS to obtain further input which has assisted in the formulation of the EIS alternatives. Additional input is expected as a result of the public review and comment on the Draft EIS. At the conclusion of the EIS process, BLM will review and consider all of the information received and at that time will formulate a final recommendation of areas found suitable for wilderness designation. Rationale for such recommendations will be included in a Wilderness Study Report to be submitted to the Secretary of the Interior and, subsequently, to Congress. The rationale will be keyed to the criteria of the "Wilderness Study Policy" (USDI, BLM, 1982c) and to other resource management factors generally as described in Chapter 2, Volume I of this EIS.

2. *Comment:* How would wilderness values be affected by overflights (i.e., Air Force training, commercial air traffic) in this WSA?

*Response:* Aircraft overflights would affect sight and sound aspects of wilderness solitude. Refer to the Wilderness Values section of the Affected Environment.

3. *Comment:* The oil and gas potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be at least moderate. This information should be considered in the Draft EIS.

STATEWIDE
POCKET MAP
WSA
NO. 2
SEE VOL. I

*Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

# DESCRIPTION OF THE ALTERNATIVES

## Alternatives Considered and Eliminated From Detailed Study

No alternatives were identified for this WSA during scoping other than those analyzed.

## Alternatives Analyzed

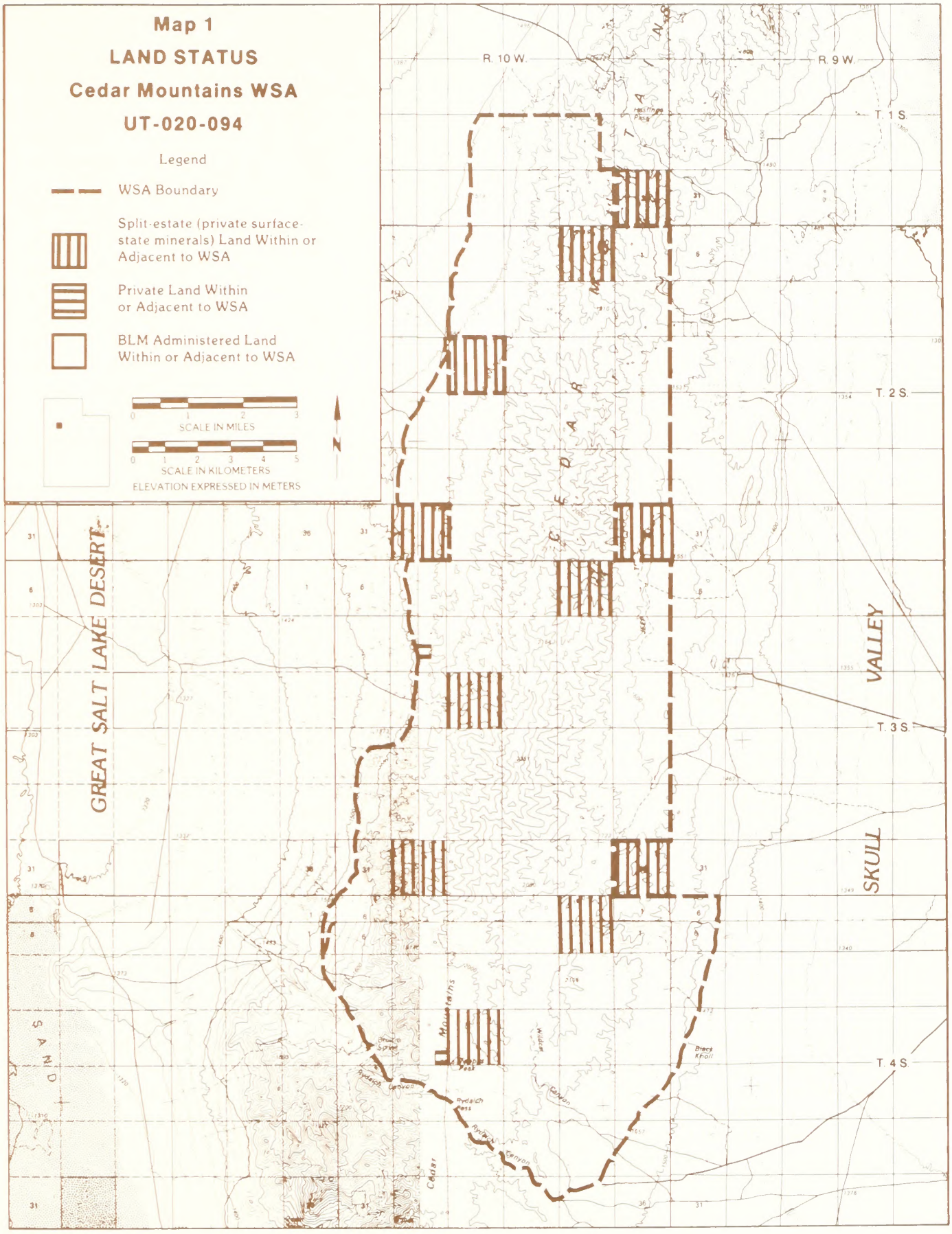
Two alternatives are analyzed for this WSA: (1) No Action; and (2) All Wilderness (50,500 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are based on projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE (PROPOSED ACTION)

Under this alternative, none of the 50,500-acre Cedar Mountains WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed for multiple uses in accordance with the general provisions of the Tooele Planning Area Management Framework Plan (MFP) (USDI, BLM, 1984c). There are eight sections (3,943.72 acres) of private lands with State-owned minerals (split-estate) within the WSA (refer to Map 1), and these lands have not been identified in the MFP for special Federal acquisition through exchange or purchase. There is no State-owned surface land in the WSA. State and private in-holdings are analyzed for the alternative as remaining under existing ownership.

The following are specific actions that would take place under this alternative:

- All 50,500 acres would remain open to mineral location and to mineral sale. Development work, extraction, and patenting would be allowed on the three existing lode claims (60 acres) and any future mining claims, if determined to be valid. Mining development would be regulated by unnecessary or undue degradation guidelines (43 Code of Federal Regulations [CFR] 3809), without consideration for wilderness values.
- The 23 existing oil and gas leases covering the entire 50,500 acres could be developed under Category 1 (standard stipulations) without concern for wilderness values. For any new leases all 50,500 acres would be placed in Category 2 (open leasing with special stipulations) to prevent activity within deer fawning areas between May 15 and July 15, and on slopes greater than 30 percent.
- The level of domestic livestock grazing use of the Cedar Mountains WSA would continue as authorized in the Tooele MFP (currently 3,293 Animal Unit Months [AUMs]). There are no existing rangeland developments but new rangeland developments could be implemented without wilderness considerations, although none are currently proposed. The WSA could continue to be used by part of the Cedar Mountains wild horse herd. About 20 animals occupy the WSA during the summer.
- Development of facilities and improvements for wildlife, water resources, etc. could be allowed if in conformance with the BLM planning documents. None are now planned.
- The entire WSA acreage would continue to be open to off-road vehicle (ORV) use. Eighteen miles of existing ways would remain open to vehicle use. New access roads could be developed without wilderness considerations.
- The entire 50,500-acre area would be open to woodland product harvest. There is no harvest of forest products at the present time, nor is any planned.
- The area would be managed under Visual Resource Management (VRM) Class III (9,920 acres) and Class IV (40,580 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit


Map 1
LAND STATUS
Cedar Mountains WSA
UT-020-094
Legend
WSA Boundary
Split-estate (private surface-state minerals) Land Within or Adjacent to WSA
Private Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
R. 10 W.
R. 9 W.
T. 1 S.
T. 2 S.
T. 3 S.
T. 4 S.
CEDAR MTNS
GREAT SALT LAKE DESERT
SKULL VALLEY
SAND

provided they are carried on in an environmentally sound manner.

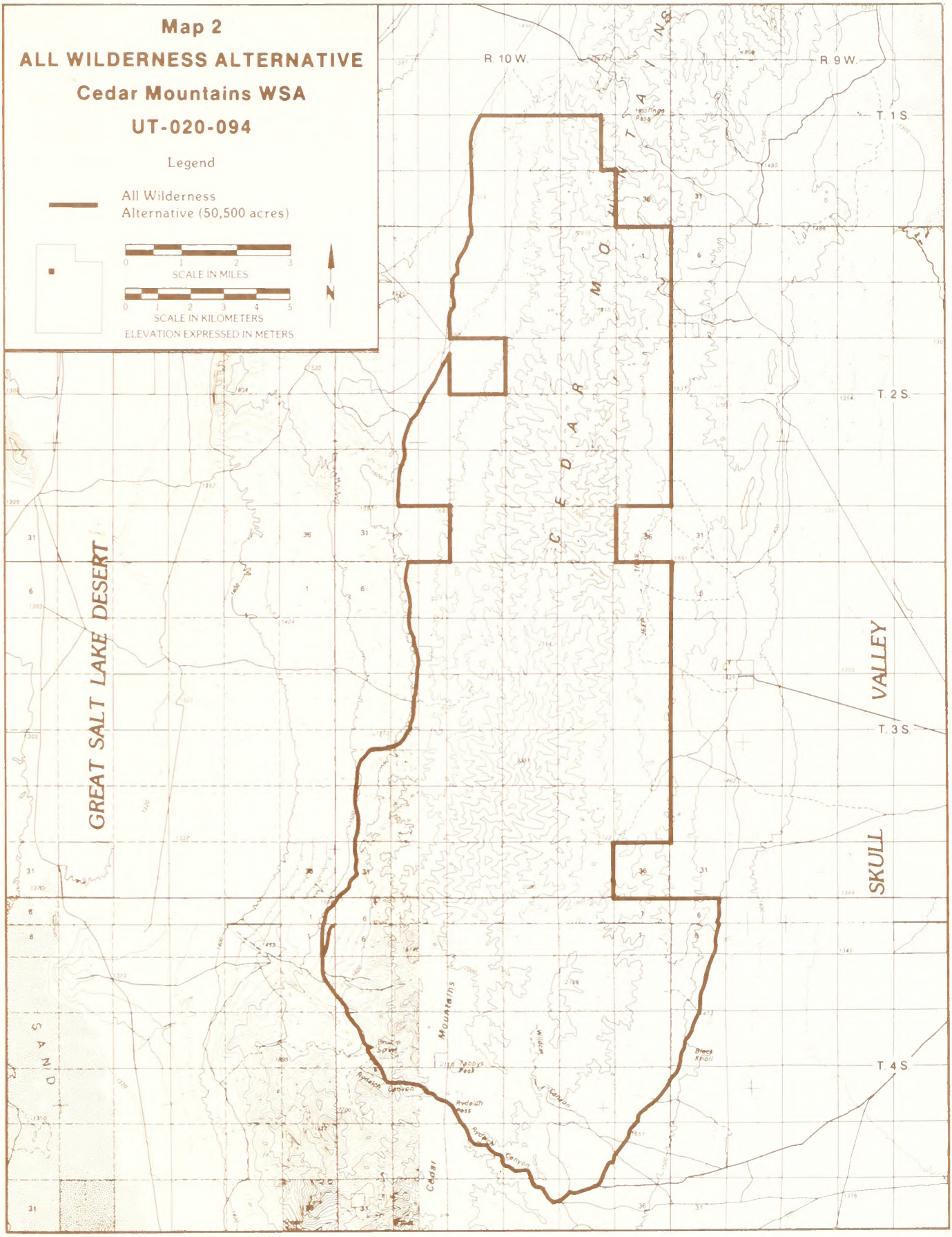
- Hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 50,500 acres of the Cedar Mountains WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981a) to preserve its wilderness character. Upon designation, eight sections acres of State minerals (split estate) within the WSA (refer to Map 1) would be transfered to Federal ownership by purchase or exchange. The 3,943.72 acres of private surface within the WSA would not be purchased or exchanged. (Refer to Appendix 3 for further discussion of State land.) The figures and acreags under this alternative are for Federal lands only.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 50,500 acres would be withdrawn from mineral location and closed to new mineral leasing and mineral sale. The three existing lode claims, if valid, could be developed on 60 acres under "prior and existing rights." Any such development would be controlled by unnecessary or undue degradation regulations (43 CFR 3809) with consideration given to wilderness values. Existing oil and gas leases involving the entire 50,500 acres would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown. No new oil and gas leases would be issued.
- The present level of domestic livestock grazing would continue as authorized in the Tooele MFP and related BLM plans. The 3,293 AUMs in the WSA would remain available to livestock as presently allotted. No rangeland developments now exist. Although none are now proposed, new rangeland developments would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources, subject to wilderness protection standards as described in Appendix 1. The existing use in the WSA by about 20 wild horses would be allowed to continue.
- New water resource facilities or watershed activities not related to rangeland or wildlife management would be allowed after designation only if they would enhance wilderness values, correct conditions presenting imminent hazard to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). None are now proposed.
- Wildlife transplants or developments would be allowed after designation only if compatible with wilderness values. Currently, there are no wildlife developments in the WSA and none are specifically planned.
- The entire 50,500-acre area would be closed to ORV use except for: (1) users with valid existing rights if approved by BLM in accordance with CFR rules; or (2) for occasional and short-term vehicular access approved by BLM for maintenance of approved livestock developments. Eleven old vehicular ways totalling about 18 miles would be closed. Reasonable road access to the 3,943.72 acres in eight tracts of private land in-holdings would be allowed as required. About 13 miles of roads bordering the WSA would be allowed to remain open to vehicle use.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 50,500-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in current military use of the air space above the WSA.


Map 2
ALL WILDERNESS ALTERNATIVE
Cedar Mountains WSA
UT-020-094
Legend
All Wilderness Alternative (50,500 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
R. 10 W.
R. 9 W.
T. 1 S.
T. 2 S.
T. 3 S.
T. 4 S.
CEDAR MOUNTAINS
GREAT SALT LAKE DESERT
SKULL VALLEY
SAND
Mountains
Cedar

- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is no harvest of forest products at the present time, nor is any specifically planned.
- Visual resources in the WSA would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken must be those having the least adverse impact to wilderness values (i.e., those that least alter the landscape or disturb the land surface). Therefore, it is assumed that firefighting would be limited to aerial or hand techniques.
- Any activity for the purpose of gathering information about natural resources would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences resulting from implementation of the alternatives. Only those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

### Air Quality

Air quality surrounding the Cedar Mountains WSA is classified as Class II under the Environmental Protection Agency (EPA) Prevention of Significant Deterioration (PSD) Regulations. This designation is an air quality classification of very good, and one that can withstand a small increase in pollutant concentrations above existing background levels, or air quality deterioration that accompanies moderate, well-controlled population growth.

The major pollutant source consists of suspended particles of dust, most of which originate in the Great Salt Lake Desert, which are blown west to east across the interior of the Great Basin. This pollutant is not considered to be of critical importance along the Cedar Mountains Range. Normal visual range in the vicinity varies from about 30 to 50 miles during the summer.

### Geology

The Cedar Mountains WSA lies in the central portion of the Cedar Mountain Range. The range, some 45 miles long, is located in the northeastern part of the Basin and Range Physiographic Province. The range follows some basic patterns typical of this province. It is north-south trending, exhibiting east-west compressional features and complex faulting.

With an elevation relief of 3,200 feet, this 7,712-foot-high range displays over 20,000 feet of geologic strata. Of this strata, more than 19,000 feet are Paleozoic ranging from late Mississippian to Permian.

The range is basically an asymmetrical anticlinal structure with the axis trending north and south. The flanks are bounded by two major faults. The Cedar Mountains WSA lies between these two

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## CEDAR MOUNTAINS WSA

| Resource | Alternatives | |
|---|---|---|
| | No Action (Proposed Action) | All Wilderness (50,500 Acres) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 220 million metric tons of phosphate, 500 tons of uranium oxide, 25 tons of gold, 500 tons of silver, and 50,000 tons of copper. | Oil, gas, and phosphate likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of mineral resources, however, the loss of development opportunity would not be significant. |
| Wildlife | About 0.6 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. |
| Livestock | Grazing of 3,293 AUMs would continue. There are no existing range developments. New developments could be allowed; however, none are now proposed. | Grazing of 3,293 AUMs would continue. Little effect on grazing management is expected. Proposed new developments might not be allowed. |
| Visual Resources | The quality of visual resources could be impaired on up to 316 acres. | Visual quality could be impaired on 60 acres. |
| Recreation | ORV use would continue on 18 miles of ways at current moderate levels. Overall recreational use could increase from the current 384 visitor days per year to 570 over the next 20 years. Up to 316 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 18 miles of way, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. |
| Wilderness Values | Wilderness values could be lost on up to 316 acres (0.6 percent of the WSA), but the values in the rest of the WSA would not be affected. About 99 percent of the WSA is natural, 10 percent meets the standards for outstanding opportunity for solitude, and opportunity for primitive recreation is less than outstanding. | Wilderness values would be protected, except on up to 60 acres (0.1 percent of the WSA) which may be disturbed by development of valid mineral rights. |
| Land Use Plans and Controls | This alternative would be consistent with the *Tooele County Master Plan,* State of Utah plans and policies, and the current BLM Tooele MFP. | This alternative would not be consistent with Tooele County's concept of multiple use. Designation would constitute amendment of the BLM Tooele MFP. |
| Socio-economics | Annual local sales of less than $67,735 and Federal revenues of up to $156,110 would continue. | Annual local sales of less than $67,735 and Federal revenues of up to $4,610 could continue, but Federal revenues of up to $151,500 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. |

faults, with the north and south ends of the unit closely bounded by transverse faults.

The Cedar Mountains have a large amount of Tertiary volcanics (mostly andesite flows) in the southern part of the range. Small amounts do occur in the WSA in the form of basalt and andesitic basalt.

## Soils

This WSA is covered by only one soil association: Lithic Xerollic Calciorthids—Lithic Calcixerolls—Rock Outcrop. It consists of well drained, steep to very steep foothills and mountain slopes and shallow, very gravelly loam to very cobbly loam. About 20 percent of this area is rock outcrop.

The WSA is covered by erosion classes as shown in Table 2. Most erosion problems are due to geologic erosion rather than man-caused.

**TABLE 2**
**Erosion Condition**

| Classification | Annual Soil Loss per Acre (cubic yard/acre) | Acres | Percent of WSA | Total Annual Soil Loss for WSA (cubic yard) |
|---|---|---|---|---|
| Severe | 5.4 | 2,525 | 5 | 13,635 |
| Critical | 2.7 | 5,555 | 11 | 14,999 |
| Moderate | 1.3 | 19,695 | 39 | 25,604 |
| Slight | 0.6 | 9,090 | 18 | 5,454 |
| Stable | 0.3 | 13,635 | 27 | 4,091 |
| Total | | 50,500 | 100 | 63,783 |

Sources: U.S. Department of Agriculture, Soil Conservation Service, 1980; Leifeste, 1978.

## Vegetation

Located as they are, surrounded by the Great Salt Lake Desert environment, the Cedar Mountains exhibit semiarid climatic and vegetative patterns. Along the foothills, extending from mud and alkaline soils to approximately the 5,200-foot level, exists a vegetative type characterized by the presence of salt-tolerant horsebrush, shadscale, and greasewood. A thin understory of pickleweed, cheatgrass, and halogeton provides additional ground cover.

Above the 5,200-foot level is the juniper transition where big sagebrush, rabbitbrush, *Ephedra*, and black sagebrush combine with bluebunch wheatgrass to offer a backdrop to occasional juniper. The upper slopes, ridges, and mountain tops are almost exclusively vegetated by a mixture of bluebunch wheatgrass and juniper. No pinyon pine is present in the WSA.

No riparian vegetation exists in the unit. Unique ecological communities are absent as well. Threatened, endangered, or sensitive plant species have not been found in the unit (England, 1982).

Table 3 indicates acreages and percentages of existing vegetation types within the WSA.

The Cedar Mountains WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) type of the WSA is juniper-pinyon woodland. PNV is the vegetation type(s) that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 3**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Shrubs, grasses, forbs | 9,090 | 18 |
| Juniper | 30,300 | 60 |
| Barren (Rock outcrops, badlands) | 11,110 | 22 |
| Total | 50,500 | 100 |

Source: USDI, BLM, 1982a.

## Water Resources

Quincy Spring is the only perennial water source found in the area. It has been "cherry-stemmed" out of the WSA, along with an associated road and private section of land (Township 3 South, Range 10 West, Section 16), to eliminate user and resource conflicts.

No other perennial streams or springs are located in the area. All water sources are intermittent and consist almost totally of spring snowmelt and summer thunderstorms. Three small seeps were found northeast of the summit by inventory crews in the spring of 1980. All three seeps were revisited in August of the same year, and all were dry.

Ground water might exist beneath the WSA but no drilling has been done to prove this assump-

tion. If exploration is undertaken, drilling would probably be located on alluvial fans outside the WSA boundary.

Irrigation use of the existing water resource is nonexistent. Potential well development is better suited to alluvial fans located below the WSA boundaries. Water rights have not been filed for on the seeps mentioned above. No other water sources are known and, consequently, no other water rights have been filed in the Cedar Mountains WSA.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy (DOE), had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

The estimated mineral and energy resource rating summary is given in Table 4.

**TABLE 4**

**Mineral and Energy Resource Rating Summary**

| | Rating | | |
|---|---|---|---|
| Resource | Favorability[1] | Certainty[2] | Estimated Resource |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 million cubic feet of gas |
| Phosphate[3] | f3 | c4 | About 220 million metric tons |
| Copper | f2 | c1 | Less than 50,000 tons concentrate |
| Uranium | f2 | c1 | Less than 500 tons of uranium oxide |
| Geothermal | f2 | c2 | Low gradient resource |
| Gold | f2 | c1 | Less than 25 tons |
| Silver | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

[3] BLM Salt Lake District rates phosphate f4/c4 and, due to this, gives the WSA an OIR of 3.

An overall importance rating (OIR) of 2+ was assigned to the Cedar Mountains WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent investigation report. Reports will be made available to the public and submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider the reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of copper and silver that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983). Although listed as strategic, copper is relatively common. Supplies currently exceed domestic demand.

### LEASABLE MINERALS

#### Oil and Gas

Geophysical exploration for oil and gas comprises the only current leasable mineral activity within the WSA.

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations which require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation

provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981a).

Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA. Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

The entire WSA is covered by 23 post-FLPMA oil and gas leases. Existing oil and gas leases covering the entire 50,500 acres could be developed under Category 1; however, for any new leases all 50,500 acres could be placed under Category 2. No other minerals are presently leased. Oil and gas potential is for possible discoveries in small, scattered pools, but the area is not within an established oil and gas province. The recoverable resource is estimated to be less than 3 million barrels of oil and less than 18 million barrels of natural gas. Refer to Appendix 6 for recoverability estimations.

### Phosphate

There is one known leasable mineral deposit within the Cedar Mountains WSA. Until recently, two sections (Township 1 South, Range 10 West, Section 36 and Township 27 South, Range 10 West, Section 2) were leased for phosphate from the State of Utah. These leases have been terminated voluntarily as of April 5, 1982. Phosphate prospecting permits were issued in the late 1960s on several hundred acres of Federal land within the area of the WSA. These permits were dropped prior to 1971. The deposit is the phosphate beds in the Meade Peak Member of the Phosphoria Formation. Approximately 14,000 acres of the WSA are underlain by this phosphate. It is estimated that there is phosphate resource of about 220 million metric tons in-place and approximately 130 million metric tons recoverable. However, these phosphate beds are not considered commercially productive at this time.

### Geothermal

There are no geothermal leases in this WSA. There is only one known source of geothermal water in the vicinity of the WSA, which is known as Redlum Spring. The temperature is about 70 degrees F. The warmest known thermal source within a 30-mile radius of Redlum Spring is approximately 80 degrees F. No post-Tertiary volcanics or tectonism occur in or near the WSA. The thermal waters in the vicinity of the Cedar Mountains are most likely of meteoric rather than magmatic origin. The general area is favorable for low temperature geothermal resources, but there is no direct data available to support or refute the existence of that resource in the WSA.

## LOCATABLE MINERALS

There is one known deposit of a locatable mineral within the Cedar Mountains WSA. It is a small deposit of aragonite-onyx in Section 35, Township 1 South, Range 10 West; two of the three mineral claims currently on file are for this decorative stone. There is an alternate aragonite-onyx source, however. The Hasting's Pass area, north of the WSA, has been a site of aragonite-onyx production since the 1890s. The potential of future aragonite-onyx production is probably greater along the Hasting's Pass Road than within the WSA boundaries. There are several deposits of aragonite adjacent to the WSA boundary, including Utah Calcium Products' main mine. There are no other known deposits of locatable minerals. The potential for additional deposits of locatable minerals, other than aragonite, is low. The potential for additional deposits of aragonite is moderate to high.

There are three unpatented mining claims within the WSA (refer to Table 5); two are pre-FLPMA and one is post-FLPMA. There are no surface occurrences, mines, or known deposits of locatable minerals (such as gold and silver) in the WSA.

**TABLE 5**
**Mining Claims**

| Name | Location | Mineral or Metal | Location Date |
|---|---|---|---|
| Horse Shoe #1 | T.1S. R.10W., Sec. 35 | Aragonite | 1971 |
| Horse Shoe #2 | T.1S. R.10W., Sec. 35 | Aragonite | 1972 |
| The Confusion | T.4S. R.10W., Sec. 27 | unknown | 1981 |

Source: USDI, BLM, 1982a.

## SALABLE MINERALS

Salable mineral materials within the WSA include high quality deposits of sand and gravel. There are no established material sites within the WSA. The potential for the use of salable minerals is low because of the widespread occurrence of the same material outside WSA boundaries. One possible exception could be the columnar basalt at Tabby's Peak. Because of the lack of this basalt elsewhere in Tooele County, there is moderate

sale potential. (A source of this building stone at Moroni's Post Pile is within the Dugway Proving Grounds military withdrawal and unavailable for sale.)

## Wildlife

Based on habitat analysis, there are approximately 137 species of wildlife which could occur in the Cedar Mountains WSA. Of these, there are 83 species of birds, 37 species of mammals, and 17 species of reptiles.

Of the 137 species referred to above, eight are considered game species. The only migratory game bird is the mourning dove. Small game species include chukar partridge, mountain cottontail, desert cottontail, and pygmy cottontail. A transient mountain lion may occasionally range onto the Cedar Mountains, but no resident population is known to inhabit the WSA. The mountain lion is considered a small game species. The only big game species in the WSA is the mule deer. There is a resident herd, estimated at about 300 animals, that inhabits the entire Cedar Mountain Range yearlong.

Several species of furbearers occur within the WSA, the bobcat being the only game species.

Many raptor species use the WSA either for hunting or for nesting activities. These include but are not limited to the great horned owl, ferruginous hawk, red-tailed hawk, and prairie falcon. Both the golden eagle (a sensitive species) and the bald eagle (an endangered species) are found in this WSA. The golden eagle nests in the area and is considered a yearlong resident. The bald eagle is considered a migrant and is found in or along the Cedar Mountain Range from November through March. It is the only threatened or endangered species of wildlife known to occur in the Cedar Mountains.

No crucial or critical acres of habitat have been identified in this WSA. There are no vegetative projects (or any other projects such as wildlife management facilities) planned for the WSA, and potential for such projects is low.

## Forest Resources

Juniper is the only woodland species present in the entire length of the Cedar Mountains WSA.

Approximately 60 percent or 30,300 acres of the 50,500-acre unit is in canopy or scattered juniper overstory. Crown density varies from 1 to 75 percent, with the majority of the WSA showing an open, poorly vegetated topography. The juniper woodland on the Cedar Mountains WSA is too isolated to provide an accessible, economically feasible product. Firewood and fenceposts, the only two woodland items that might be cut, are more plentiful and more accessible in designated cutting areas 15 to 30 miles south and east of the Cedar Mountains. BLM has not issued permits for any woodland products in this WSA or along the bordering foothills.

## Livestock and Wild Horses/Burros

A total of 3,293 AUMs in portions of three grazing allotments are found in the Cedar Mountains WSA. Grazing use data are shown on Table 6.

**TABLE 6**
**Livestock Grazing Use Data**

| | Allotments | | |
|---|---|---|---|
| | North Cedar Mountain | Aragonite | Skull Valley |
| Acres of Allotment in WSA | 3,550 | 2,400 | 44,550 |
| Percent of Allotment area in WSA | 6.31 | 14.95 | 16.57 |
| Number of Operators | 1 | 2 | 4 |
| AUMs in Allotments | 5,641 | 1,415 | 16,052 |
| Estimated AUMs within WSA | 272 | 166 | 2,855 |
| Percent of AUMs within WSA | 4.6 | 10.5 | 15.1 |
| Season of Use | 11/1 to 4/30 | 12/1 to 4/15 | 10/1 to 6/15 |
| Allotment Management Plan (AMP) Completed | No | No | No |
| Estimated Number of Livestock Using WSA | 300 cattle and sheep | 200 sheep | 3,000 cattle and sheep |
| Existing Range Improvements in WSA | None | None | None |
| Proposed Improvements in WSA | None | None | None |

Source: USDI, BLM, 1982a

Unsuitable grazing land makes up a part of all three allotments. Land classified as unsuitable is primarily the steep, poorly vegetated uplands and rocky southern slopes that lack water in the hot summer months and lack access in the snow-bound winter months.

There are no other range improvements located within or planned for this WSA. Furthermore, there are no livestock management facilities or stock trails, routes and/or grazing systems other than random seasonal use by a limited number of livestock.

There are presently an estimated 200 head of wild horses on the Cedar Mountains. The home range for the majority of these horses is outside of the WSA, south of Rydalch Pass. As one travels north from Rydalch Pass and enters deeper into the WSA, the less evidence of wild horses is found. Stud piles, bedding grounds, and routes to available water become less distinct, eventually fading into game trails or native vegetation. It is estimated that 20 head of wild horses, utilizing all three allotments and approximately 120 AUMs of forage, live and remain in the WSA during the summer months. The horses winter near Orr Springs on the boundary of the Dugway Proving Grounds south of the WSA.

The horses tend to use established migration routes throughout the Cedar Mountains and move primarily along the ridges in a north-south direction. There have been sightings of horses along the foothills on both the east and west sides of the range and as far north as Hastings Pass, the northern boundary of the WSA.

## Visual Resources

Scenic quality is Class B on 11,840 acres and Class C on 38,660 acres. The topography consists primarily of smooth hills with some rock outcrops. The main vegetative types are grass, desert shrub, and juniper. The east side of the main north-south ridge (rated as Class B quality) has some interesting and unusual rock formations; Tabby Peak, a pyramid-shaped peak of volcanic rock, provides some interesting textures and color contrasts.

Most of the area is rated as BLM VRM Class III. The area along the east side of the main ridge is VRM Class III. The VRM system is explained in Appendix 7. Table 7 shows acres and percentages of VRM classes in the WSA.

**TABLE 7**

**Visual Resource Quality and Management Class**

| Element | Acres | Percent of WSA |
|---|---|---|
| Scenic Quality | | |
| Class A | 0 | 0 |
| Class B | 11,840 | 23 |
| Class C | 38,660 | 77 |
| Management Class | | |
| Class I | 0 | 0 |
| Class II | | |
| Class III | 9,920 | 20 |
| Class IV | 40,580 | 80 |

Source: USDI, BLM, 1974.

## Cultural Resources

As part of a 1-percent random sampling for the Lakeside/Skull Valley Planning Area, seven quarter-sections (6, 13, 15, 17, 23, 24 and 26) within the WSA were intensively surveyed. Two of these survey areas had cultural resource sites (13 and 17). The quarter-sections were picked randomly from a grid, and many were in areas with a low probability of site occurrence. A number of sites were found in likely areas just outside the inventory areas. No inventory has been conducted in the southern portion of the unit nor in the center of the range at the higher elevations. Seventeen sites have been found in the WSA.

Except for one site, believed to be a historic remains (six stone towers), and one petroglyph, all of the sites are lithic scatters situated on sand dunes in the foothills at 4,700- to 5,400-foot elevations. More than half of the sites contain diagnostics such as metates, milling stones, bifaces, or points and are, therefore, considered significant. No sites are at this time being considered for the National Register of Historic Places.

Historically, a number of explorers and travelers to California passed along the northern boundary of the WSA through Hasting's Pass. The best known of these were Fremont's Third Expedition in 1845 and the Donner-Reed party in 1846. There is no trace of their passage through the WSA, but their trail is still visible across parts of the salt desert to the northwest.

## Recreation

The physical setting discourages or prevents vehicular access into the unit except where existing access routes now exist. The entire WSA is currently open to ORV use. A total of 18 miles of jeep trails and ways lie within the WSA boundary on BLM lands. These ways are generally short spur routes in the canyon drainages close to the boundary of the WSA. The longest of these ways penetrates about 3 miles into the WSA (Wild Cat Canyon). A total of 11 separate access routes provide access to all but the north end of the WSA.

The few recreationists who do make an effort to explore the interior of the WSA are primarily engaged in horseback riding, hiking, geological study, or hunting. Once inside the unit, the isolation promotes primitive recreational experiences.

Documented use statistics have been estimated from field interviews with recreationists along the boundary road. Upper portions of the roadless areas of the WSA received an estimated annual

use of 82 visits, which accounts for some 27 visitor days of primitive type use per year. An additional 357 visitor days per year are associated with ORV use along areas where jeep trails and ways exist. A total of 384 annual visits or days were estimated for 1981, representing a typical year.

The character of recreational use inside the Cedar Mountains WSA has been identified under the Recreation Opportunity Spectrum (ROS). Primarily, the area is semi-primitive nonmotorized, but also contains area subclassified as semi-primitive motorized along or adjacent to vehicular access routes.

## Wilderness Values

### SIZE

The Cedar Mountains are located near the eastern edge of the Great Basin Province and in the middle of the Bonneville Basin, or that expanse once covered by the waters of Lake Bonneville. A north-south trending range, the Cedar Mountains exhibit typical Basin and Range Physiography along a curved, asymmetrical axis.

Between Hastings Pass on the north and Rydalch Pass on the south, the WSA has 50,500 acres of BLM-administered lands, approximately 20 miles long and 4.50 miles wide.

### NATURALNESS

About 50,000 acres in the WSA meet the standards for naturalness set by the *Wilderness Act*. About 75 acres have allowable minor imprints. About 500 acres do not meet the standards, as human impacts are substantially noticeable. The 500 acres are comprised of 450 acres that are disturbed by 18 miles of ways and 50 acres that have been disturbed in five mining prospects.

### SOLITUDE

Topographically, the Cedar Mountains WSA is seldom spectacular. Gradient is seldom steep, as it rises gently from alkaline flats on the east and west sides and from the passes to the north and south. Relief is not spectacular. From the unit's low point on the west side (4,880 feet) to Cedar Peak (7,712 feet), a 2,832-foot rise is spread along approximately a 4-mile climb. Basic configuration of the Cedar Mountains consists of a single ridgeline along which many points rise above 6,800 feet. Steep, rugged cliffs are occasionally displayed across approximately 8 miles of the unit's eastern aspect. Erosion has exposed these cliffs as vertical sedimentary formations that terrace both the north and south aspects of east-west trending canyons. It is only here among these cliffs and in the canyons beneath that one finds an uncommon display of topographic screening. The balance of the WSA is well eroded, but rounded into gentle slopes and shallow canyons or gullies.

Cover is present within the unit but not to the degree that vegetative screening provides outstanding opportunities for solitude. There are, however, isolated dense stands of juniper that, when combined with canyon topography, provide screening sufficient to cover man-made imprints, to separate recreationists, and to provide solitude.

Off-site intrusions and influences are sights and sounds that may affect solitude.

The Cedar Mountains WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheep Rock Mountains to 17 miles within Nevada. The South Range is one of the Nation's busiest military air spaces. There are about 15,000 aircraft including all types of tactical fighters and bombers using the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range six days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds also are reached. Heaviest use areas are in the northern part of the South Range, which includes the Cedar Mountains (Davies, 1985). To the west of the WSA are the Dugway Proving Ground and the Wendover Bombing and Gunnery Range. Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are not directly over the Cedar Mountains WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude. To the east of the WSA across Skull Valley are paved roads, a rocket testing center, and five ranches. Occasionally these off-site influences are an annoyance.

About 10 percent (5,280 acres) meets the standards for outstanding opportunities for solitude set by the *Wilderness Act*. About 90 percent (45,220 acres) of the WSA does not have outstanding opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

The Cedar Mountains offer a variety of potential, although marginal, recreational activities. Hunting and horseback riding probably attract more participants than all other activities combined. Deer, the primary big game species in the range,

are not plentiful and attract limited numbers of hunters. On the other hand, upland game hunting is described at times as fair to good, especially along the unit's boundary road near developed springs.

Although water must be carried, backpacking, hiking, and rock climbing also can be enjoyed in the Cedar Mountains. Overall, slopes are not steep, although sheer limestone cliffs are present in isolated locations for the technical climbers. A potential highline or crest trail from White Rocks to the Hastings Pass could be of possible future interest.

Primitive and unconfined recreation opportunities in the WSA are not outstanding.

### SPECIAL FEATURES

The only special feature identified is the herd of 20 wild horses that roams the WSA. While many areas in the western states have wild horse herds, actual sightings by the casual visitor are a relatively rare occurrence.

## Land Use Plans and Controls

The majority of the Cedar Mountains WSA consists of public land, managed under the BLM Tooele Planning Area MFP (USDI, BLM, 1984c). Found within but not calculated into the 50,500-acre WSA figure are the sections of private land listed in Table 8.

The private land listed in Table 8 was purchased from the State and all mineral rights were retained by the State. Oil and gas leases have been applied for or are currently held for the split estate land within the WSA. The Utah State Division of Lands and Forestry manages mineral rights on the split estate sections discussed.

There are no existing rights-of-way or pending right-of-way applications for use of BLM-administered land within the WSA. Future rights-of-way will be needed in connection with access rights to the private and State in-holdings. Access to mining claims and private or State in-holdings must be allowed under provisions of law.

Tooele County has a County Master Plan, 1970-1990 (Mountain Area Planners, 1972), but it is not specifically directed to the Cedar Mountains WSA. Land use in Tooele County is generally discussed throughout the Master Plan as encouraging multiple and cooperative use. The plan states:

> "The major part of unincorporated land in Tooele County is shown on the Master Plan Maps as multiple-use areas. It is proposed that these lands be subject to conditional use permits for all uses; that primary uses allowed be forestry, stock grazing, mining, and recreational activities in appropriate areas; that emphasis of management practices be placed on conservation and wise use of natural resources, to permit and encourage improvement in soils stability, plant cover, water quantity and quality, and scenic beauty."

**TABLE 8**
**Private Land Holdings**

| Location | Acres |
|---|---|
| T.2S., R.10W., Section 2 | 643.00 |
| T.3S., R.10W., Section 2 | 636.88 |
| T.3S., R.10W., Section 8, NW¼ of SE¼ | 40.00 |
| T.3S., R.10W., Section 16 | 640.00 |
| T.3S., R. 10W. Section 32 | 640.00 |
| T.4S., R.10W., Section 2 | 663.84 |
| T.4S., R.10W., Section 16 | 640.00 |
| T.4S., R.10W., Section 17, SE¼ of SE¼ | 40.00 |
| Total | 3,943.72 acres |

Sources: USDI, BLM, 1982a; Appendix 3

## Socioeconomics

### DEMOGRAPHICS

The population within a 25-mile radius of the Cedar Mountains WSA is concentrated entirely within the boundaries of Tooele County and localized in three valleys surrounding the Cedar and Stansbury Mountain Ranges.

During 1960 to 1980, the population of Tooele County grew from 17,868 to 26,033, an overall increase of 45.7 percent and an average annual increase of 2.28 percent. Table 9 presents comparative population data for Tooele County.

**TABLE 9**
**1960 to 1980 Population**
**Tooele County, Utah**

| Area | 1980 | 1970 | 1960 |
|---|---|---|---|
| Tooele County | 26,033 | 21,545 | 17,868 |
| Dugway/Wendover Division | 3,041 | — | — |
| Dugway | 1,646 | 2,357 | — |
| Wendover Town | 1,099 | 781 | 609 |
| Onaqui Division | 791 | 679 | 646 |
| Ophir Town | 42 | 76 | 36 |
| Rush Valley Town | 356 | 541 | 511 |
| Vernon Town | 181 | — | — |
| Tooele/Grantsville Division | 22,201 | — | — |
| Grantsville City | 4,419 | 2,931 | 2,166 |
| Stockton Town | 437 | 469 | 362 |
| Tooele City | 14,335 | 12,539 | 9,133 |

Source: U.S. Department of Commerce, Bureau of the Census, 1981.

The population of Tooele County is heavily concentrated (about 85 percent) in Tooele Valley, or that northeastern corner of the county referred to on Table 9 as the Tooele-Grantsville Division. This area is 30 to 50 miles east of the Cedar Mountains. The remaining 15 percent of Tooele County's population is scattered throughout the county. The population density of Tooele County is 3.76 people per square mile.

## EMPLOYMENT

Table 10 shows nonfarm employment by source for Tooele County. The five most contributing sources of employment in Tooele County for the fourth quarter of 1982 were: (1) government, 61.28 percent; (2) manufacturing, 10.09 percent; (3) trade, 8.77 percent; (4) mining, 8.15 percent; and (5) services, 6.28 percent.

The high government figure results primarily from civilian employees at military installations in the county. Farm employment represents a very small percentage (less than 2 percent) of the county employment and income (University of Utah, Bureau of Economic and Business Research, 1979). Mining employment in the county has been declining in recent years.

**TABLE 10**
**1982 Nonfarm Employment**
**Tooele County, Utah**

| Economic Sector | Tooele County | | |
|---|---|---|---|
| | 1982 | 1981 | Change |
| Civilian Labor Force | 9,247 | 9,033 | 2.4 |
| Employed | 8,300 | 8,500 | -2.4 |
| Unemployed | 947 | 533 | 77.7 |
| Percent of Labor Force | 10.2 | 5.9 | |
| Percent of Labor Force Seasonally Adjusted | 11.0 | 6.3 | |
| Total Nonagricultural Jobs | 10,163 | 10,432 | -2.6 |
| Mining | 828 | 1,084 | -23.6 |
| Contract Construction | 170 | 174 | -2.3 |
| Manufacturing | 1,025 | 1,095 | -6.4 |
| Durable Goods | 103 | 112 | -8.0 |
| Nondurable Goods | 922 | 983 | -6.2 |
| Trans., Commercial, Public Utilities | 221 | 215 | 2.8 |
| Trade | 891 | 886 | 0.6 |
| Wholesale Trade | 21 | 22 | -4.5 |
| Retail Trade | 870 | 864 | 0.7 |
| Fin., Ins., & Real Estate | 162 | 158 | 2.5 |
| Service | 638 | 610 | 4.6 |
| Government | 6,228 | 6,210 | 0.3 |
| Federal Government | 5,146 | 5,158 | -0.2 |
| State Government | 58 | 56 | 3.6 |
| Local Government | 1,024 | 996 | 2.8 |

Source: Utah Department of Employment Security, 1982b.

## INCOME AND REVENUES

Table 11 shows representative income for nonfarm activities in Tooele County. Farm-related income for the county totals about $3 million per year (University of Utah, Bureau of Economic and Business Research, 1979).

**TABLE 11**
**1981 Nonfarm Wage Income and Employment**
**Tooele County, Utah**

| Economic Sector | Number of Firms | Total Employment | Total Wages | Average Monthly Wage | Percent of Total Wage Revenue |
|---|---|---|---|---|---|
| Total Nonagriculture | 379 | 10,240 | 175,360,374 | 1,427 | 100 |
| Mining | 8 | 1,000 | 28,000,720 | 2,333 | 15.96 |
| Construction | 50 | 192 | 3,341,247 | 1,446 | 1.91 |
| Manufacturing | 17 | 1,121 | 24,017,519 | 1,786 | 13.70 |
| Transportation, Communication, Public Utilities | 22 | 234 | 4,497,570 | 1,605 | 2.56 |
| Trade | 108 | 910 | 7,059,425 | 646 | 4.02 |
| Finance, Insurance, Real Estate | 26 | 159 | 1,625,581 | 851 | 0.92 |
| Services | 85 | 564 | 4,684,540 | 692 | 2.67 |
| Government | 63 | 6,060 | 102,133,772 | 1,404 | 58.24 |
| Federal | | 5,003 | | | |
| State | | 60 | | | |
| Local | | 997 | | | |

Source: Utah Department of Employment Security, 1982b.

Economic-related activities in Cedar Mountains WSA include mineral exploration, livestock production, and recreation sectors of Tooele County's economy. This is commodity production in the WSA from Federal land only. Appendix 9 identifies the multipliers used to estimate income and revenues.

Twenty-three noncompetitive leases entirely cover this 50,500-acre WSA. Federal revenue generated by these leases amounts to up to $3.00 per acre per year (up to $151,500 per year). All 23 leases are current and will continue to be current until 1991. No oil or mineral extraction has occurred in the WSA. Therefore, mineral and energy resource production from the WSA has not contributed to local employment or income.

The WSA has three mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Mineral production or mine development in the Cedar Mountains WSA is limited to a single, sometimes active, aragonite mining operation working along the WSA's northeast boundary. The mine is not presently producing but assessment work is being continued.

Seven stockmen seasonally graze cattle and sheep on 3,293 AUMs scattered across the three grazing allotments found in the WSA. At the current fee of $1.40 per AUM these seven ranchers pay $4,610 per year in Federal revenue to graze their stock within the WSA boundaries. Marketing

of livestock which use the WSA contributes to local income. About $65,860 of livestock sales and $16,465 in ranchers' return on investment and labor is attributed to the AUMs in the WSA.

Woodland products are not presently being taken from the unit; therefore, no revenue is generated from this resource.

Recreation has not proven to be a significant income producer. Deer hunting, ORV use, and horseback riding account for 98 percent of the low use in the WSA. Revenue generated by the sale of hunting licenses to people specifically hunting this WSA is considered insignificant. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Cedar Mountains is estimated as about 384 visitor days per year, resulting in a total estimated annual expenditure of $1,575 related to the WSA. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Tooele County.

Table 12 indicates current income and revenues for the WSA.

**TABLE 12**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $151,500 |
| Mining Claim Assessment | $ 300 | None |
| Livestock Grazing | $65,860 | $ 4,610 |
| Woodland Products | None | None |
| Recreational Use | Less than $ 1,575 | None |
| Total | Less than $67,735 | Up to $156,110 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from: (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative (Proposed Action)

It should be noted that this alternative represents the current management situation within the Cedar Mountains. Basically, the public land is open to all uses with most proposals for various uses being evaluated during an application-environmental analysis, and permit process.

The major changes that could occur in the area would be related to future oil and gas exploration and development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown but probably would be low due to remote terrain and low resource potential. The following is a worst-case analysis based on the assumption that minerals would be developed sometime in the future and cause the following disturbance: aragonite, 40 acres; oil and gas, 160 acres; geothermal, 6 acres; uranium, 20 acres; and phosphate, 90 acres. (Appendix 10 lists surface disturbance assumptions and estimates.) This would result in a total disturbance of up to 316 acres for a worst-case analysis.

### AIR QUALITY

The WSA would continue to be managed as a Class II area under the PSD regulations. Some degradation in air quality could occur; however, the likelihood of this occurring in the area in the near future is low. A possible surface disturbance of 316 acres from mineral and energy exploration and development would result in only minor increases in fugitive dust emissions.

### GEOLOGY

No impacts to geology are expected because surface disturbances associated with mineral and energy exploration and development activities would probably not exceed 316 acres. This would not significantly affect geology.

### SOILS

Analysis indicates that up to 316 acres could be subject to surface-disturbing activities related to mining claim assessment work, mining development, geothermal, and oil and gas exploration. Increased erosion could result where this occurred. About 55 percent of the WSA is in severe, critical, and moderate erosion classes.

Assuming that all disturbance would occur in areas with critical erosion class (worst-case analysis), and that erosion condition would increase one class, soil loss on the 316 acres would increase from 853 cubic yards/year to 1,706 cubic yards/year. Accelerated soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 853 cubic yards (1.3 percent) over the current annual soil loss of 63,783 cubic yards to 64,636 cubic yards/year. This is a small increase and the effects would likely be imperceptible, except in localized areas.

### VEGETATION

Analysis indicates that up to 316 acres could be subject to surface-disturbing activities related to mining claim assessment work, mineral development, geothermal, and oil and gas exploration.

Development could permanently modify small portions of existing and potential vegetation types by direct removal of juniper trees and changing soil characteristics. However, the anticipated maximum acres disturbed would not significantly impact the vegetation in the WSA as a whole.

No threatened, endangered, or sensitive plant species would be affected because none occur in the area.

### WATER RESOURCES

Due to low precipitation, lack of water in this WSA, and projected land uses, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the increased 853 cubic yards (1.3-percent increase) of annual soil loss from surface disturbance.

There is no perennial surface water in the WSA. The ground water and associated water tables that likely underlie the WSA are expected to be unaffected.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

This alternative should have little impact on energy or critical mineral development. The entire area would remain open to exploration for and development of energy and mineral resources.

*Oil and Gas*

The potential for up to 10 million barrels of oil in-place and up to 60 billion cubic feet of natural gas exists within the WSA. About 3 million barrels of oil and 18 billion cubic feet of gas would be recoverable. These oil and gas resources could be explored and developed under existing leases, subject to Category 1 stipulations (and Category 2 stipulations for future leases) and would not be affected by the adoption of this alternative. Approximately 160 acres of surface disturbance would take place if exploration and development were to occur. However, due to the small size and scattered nature of potential deposits, no development is expected under this alternative.

*Phosphate*

This mineral has potential for future leasing should market conditions demand. The approximately 220 million metric tons of estimated

resource could be recovered. About 90 acres are assumed to be disturbed by phosphate development. There is moderate expectation for this development to occur.

*Geothermal*

There is a possibility that 6 acres could be disturbed from geothermal exploration and development activities; however, because of the low temperature heat source no development is expected under this alternative.

**Locatable Minerals**

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location.

Approximately 20 acres could be disturbed due to exploration and development of gold, silver, copper, and uranium, should they actually be found in the WSA. However, the likelihood for development of copper and uranium is thought to be minimal because of economic considerations (e.g., transportation, low potential, etc.). Recovery potential of gold and silver from the WSA is not expected because of its scattered nature.

About 40 acres could be disturbed by aragonite mining. Since this mineral is found immediately adjacent to the WSA, the potential for development within the WSA is rated by BLM as moderate. This mineral (a decorative stone) was not included in the report prepared by SAI (1982).

**Salable Minerals**

Salable mineral materials are not expected to be developed and, therefore, would have no associated impacts.

## WILDLIFE

An estimated disturbance of 316 acres (less than 1 percent of the WSA) through mineral and energy exploration and development would not significantly disrupt wildlife in the WSA as a whole. Mule deer, chukar partridge, and mobile nongame animals would be dispersed from the areas of localized disturbance for the lifetime of these activities. Some less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels. The golden eagle and other birds of prey would avoid areas of active disturbance while activities were taking place; however, no significant long-term impacts are expected to occur to any of these species. The only threatened and endangered species, the bald eagle (a winter resident), would not be significantly affected.

This alternative would allow for future wildlife transplants and developments, although none are currently proposed.

## FOREST RESOURCES

There is no commercial timber in the WSA. Existing juniper products are unlikely to be utilized because of inaccessibility, scattered locations, and the availability of higher quality resources closer to population centers. Therefore, there would be no loss or harvest of forest products under this alternative.

## LIVESTOCK AND WILD HORSES

Present livestock use and related access could continue without regard for wilderness values. No additional range improvements are probable. There would be no significant changes in or effect on the current livestock use and management under this alternative. Domestic livestock grazing would continue as authorized in the MFP or current planning document. The 3,293 AUMs in the WSA are currently allocated to seven livestock permittees. Although none are now planned, additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. Few, if any, changes in livestock management techniques are expected. Mineral development could reduce available forage for livestock by an estimated 25 AUMs during the short term. In the long term reclamation could increase available forage.

The herd of 20 wild horses would continue use of the WSA as at present.

## VISUAL RESOURCES

Although the entire 50,500 acres could be subject to surface-disturbing activities, it is assumed that only 316 acres would be disturbed. This disturbance could have a negative impact on the visual character of these lands, but the impact would be minimal due to the small acreage and low scenic quality of the lands involved. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity.

Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are scattered throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole. However, potential mineral development areas have low scenic values; thus, no significant impact to visual resources would be expected under this alternative.

## CULTURAL RESOURCES

Disturbance of 316 acres by mineral exploration and development under this alternative could impact cultural resources (17 known sites) through loss and vandalism due to increased access. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance. Inadvertent loss or damage could occur in the disturbed area. The overall effect on cultural resources is expected to be minimal.

## RECREATION

Use and user trends would probably continue without much change. Recreational uses would be light and mostly oriented to the lower boundaries of the WSA. The upper reaches of the WSA would probably continue to go untracked and, for the most part, unused. Based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 384 current visitor days per year to 570 at the end of 20 years. Likewise recreational activities utilizing vehicular access (hunting, sightseeing, etc.) would continue to represent most of the use and would increase from 357 to 530 visitor days per year.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, 316 acres of mineral-related exploration and development activities are possible. If roads, vehicular ways, and drill pads are scattered throughout the WSA (worst-case analysis), primitive recreational opportunities could be reduced in the area altogether. However, minimal adverse impacts to recreation values are expected due to the small acreage of potential disturbance and low primitive recreational values. ORV use on 18 miles of ways in 11 locations would remain open for public use. Roads and ways created for energy and mineral exploration and development would improve access into the area for nonprimitive recreation. If roads for development of private land in-holdings are developed, the quality of primitive recreational opportunities would be reduced. The potential for such road development is uncertain.

## WILDERNESS VALUES

The present system of management (No Action Alternative) seems to have served to perpetuate the wilderness values in the area, which have proven favorable to its consideration for wilderness. Another factor relative to wilderness value preservation is the remote location of the range and the limited demands on its resources to date.

If the WSA were not designated, the wilderness values in the future would not receive the degree of protection afforded by the application of the "Wilderness Management Policy," and management would be under the existing Tooele MFP. Projected mineral exploration and development, which is expected to be concentrated on 316 acres, could have adverse impacts on wilderness values of the WSA. Under a worst-case analysis, the entire WSA would be subject to oil and gas exploration; however, wilderness values are unlikely to be diminished in the immediate future. Existing land uses are expected to continue on Federal land as they have in the past.

About 18 miles of existing vehicular ways would remain open, New access to eight tracts of private land surface within the WSA could adversely affect wilderness values, and any development on those 3,943.72 acres of private land could adversely affect the adjacent wilderness values on BLM-administered land. The nature and extent of any future development on private land are currently unknown. Impacts on private land could occur with or without wilderness designation of adjacent Federal land.

Surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are scattered throughout the area. However, the potential for mineral development and related disturbance is low to moderate in this WSA. Therefore, even though nondesignation would not provide the protection from mineral-related impacts afforded by application of "Wilderness Management Policy," wilderness values are unlikely to be greatly diminished due to lack of resource development potential or low market demand. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## LAND USE PLANS AND CONTROLS

The *Tooele County Master Plan* does not specifically address this area but generally recommends multiple use in the county. This alternative would be consistent with that plan because present or expected land uses in the WSA would not change. The No Action Alternative is based on implementation of the current BLM Tooele MFP and is, therefore, in conformance with it. This alternative would be consistent with State of Utah plans and policies which emphasize economic return.

### SOCIOECONOMICS

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development of minerals within the WSA is low, except for aragonite and phosphate which have a moderate potential, limited by market conditions. If the aragonite and phosphate in the WSA were developed, it could lead to a small increase in employment and income for Tooele County.

There would be no livestock-related economic losses because the existing grazing use (3,293 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce $65,860 annually in livestock sales and $16,465 of ranchers' return to labor and investment.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Recreational use in the area is estimated to increase by only 186 visitor days per year over the next 20 years, and overall recreation-related expenditures average $4.10 per visitor day, for a total increase of $763. Since only a portion of this would contribute to the local economy, recreation-related expenditures attributable to the WSA would not be significant to the Tooele County economy.

Federal and State revenues would not be reduced by this alternative. There are no acres in the WSA open to oil and gas leasing that are currently not leased, and lease payments would continue. New leases for phosphate could bring additional Federal lease fee revenues in addition to new royalties from lease production. Half of these monies would be allocated to the state, a portion of which could reach the local economy. Collection of livestock grazing fees ($4,610 per year at $1.40 per AUM) would continue. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (50,500 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 50,500-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 18 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that mining claims would eventually be explored and developed, causing an estimated 60 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas or phosphate would not be allowed. Appendix 10 lists surface disturbance assumptions and estimates for the WSA.

Because potentially disturbed areas for this alternative would be smaller than under the No Action Alternative (60 vs. 316 acres), the impacts of surface disturbance from mineral exploration and development on air quality, geology, vegetation, water, wildlife, and forest resources under the All Wilderness Alternative would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce the potential for disturbance. Other effects on these resources due to changes in management are discussed below.

### SOILS

Up to 60 acres are likely to have surface-disturbing activities related to assessment work and mining development. This could result in increased erosion in these areas. Assuming that all disturbance would occur in areas with critical erosion class (worst-case analysis) and that erosion condition would increase by one class, soil loss on the 60 acres would increase from 162 cubic yards/year to about 324 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 162 cubic yards (0.25 percent) over the current annual soil loss of 63,783 cubic yards to 63,945 cubic yards/year. The effects of such a small increase likely would be imperceptible.

### WATER RESOURCES

Watershed developments or expansion of existing sources could not occur under this alternative, although none are presently planned.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

All 50,500 acres are under 23 post-FLPMA oil and gas leases. However, no exploration or development of oil and gas is presently occurring within the WSA. Potential for the occurrence of oil and gas resources is rated as low.

Existing post-FLPMA leases could be developed subject to the nonimpairment stipulations issued at the time of leasing; however, under wilderness designation these stipulations would, in practicality, prevent any substantial development. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration date, and expired leases will not be reissued.

Exploration for and development of a potentially recoverable resource of up to an estimated 3 million barrels of oil and 18 billion cubic feet of natural gas could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in a significant loss of potential oil and gas recovery.

*Phosphate*

An estimated potential of 130 million metric tons of recoverable phosphate would be foregone, since new leasing would not be allowed in the designated wilderness.

*Geothermal*

Because of the low temperature heat source, no development and, therefore, no impacts are expected to the geothermal resource as a result of wilderness designation.

### Locatable Minerals

If the potentially recoverable minerals are not within mining claims filed before designation, the potential for recovery would be foregone. Considering the mineral resources present in the WSA, their likelihood for development, their availability elsewhere, and the "Wilderness Management Policy," the alternative would have little or no overall impact on minerals.

There are no known commercial deposits of gold, silver, copper, or uranium in the WSA. Potential for their occurrence is low. No impact resulting from wilderness designation is anticipated for these minerals.

Two claims have been filed for aragonite. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. New road access required to these claims would create limited impact since the claims are near the edges of the WSA.

For mining claims located prior to wilderness designation, it is estimated that up to 60 acres could be disturbed due to exploration and development of the locatable mineral resource. The worst-case impact to minerals would be if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case the potential for recovery of up to 50,000 tons of copper, 500 tons of uranium oxide, 25 tons of gold, and 500 tons of silver would be foregone.

### Salable Minerals

Salable mineral materials are not expected to be significantly affected.

### Wildlife

Under this alternative, wildlife species would receive future benefit due to reduced potential for disturbance and the preservation of solitude. However, since existing use in the WSA is low, wilderness designation would result in little change in present wildlife conditions. Endangered and sensitive species which are now protected would receive added protection due to closure of ORV access. Required future access to State and private in-holdings could impact wildlife, with or without wilderness designation.

## LIVESTOCK AND WILD HORSES

Present domestic livestock grazing would continue as authorized in accordance with the Tooele MFP. The 3,295 AUMs currently allocated in the WSA are used by sheep and cattle owned by seven livestock permittees. The revenue of $1.40 per AUM or $4,610 for these AUMs also would continue. Little effect on the management of livestock grazing is expected, except some limitations on vehicular use may occur. Although none are now planned, future roads or other livestock management facilities could be restricted to preserve wilderness values.

No adverse impact is expected to occur to the 20 wild horses in the WSA due to the small disturbance expected from mineral exploration and development that could occur under this alternative. These wild horses would benefit from wilderness designation due to the preservation of solitude.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I which generally allows for only natural ecological change, through ORV closure, and through closure of the entire area to future mineral leasing and mining claim location.

Under this alternative the possible mineral-related surface disturbance would be reduced from 316 acres to 60 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality could be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. Because the potential for development of mining claims is moderate and because existing claims are at the extreme ends of the WSA, visual quality would probably not be reduced in the WSA as a whole. More significant to visual quality is the possibility of new roads required to allow access to and within private surface in-holdings, which would result in adverse impacts to visual quality in the eight locations throughout the WSA.

### CULTURAL RESOURCES

Under this alternative, cultural resources on up to 60 acres (0.12 percent of WSA) could be subject to loss from surface-disturbing activities associated with mineral exploration and development. Inventories for the purposes of site recordation and mitigation of impacts would occur prior to surface disturbance; however, inadvertent and minimal loss or damage could occur. Wilderness designation would tend to reduce damage to cultural resources due to reduced development potential.

There is a slight potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

### RECREATION

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined additional increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would endeavor to provide for dispersion of future recreation use. Due to the size and configuration of the WSA, the quality of the primitive recreation experience probably would not be negatively affected by the increased use. The 530 visitor days of ORV recreation and/or vehicle-related hunting use in the WSA that could occur without designation would be eliminated. It is likely that increases in primitive recreation use would not offset losses in vehicle-related use in the WSA; therefore, no significant overall increases in the WSA are predicted. Because there are other suitable areas for ORV recreation in the general vicinity of the WSA, ORV use would probably not experience an overall decline in the region.

Because existing mining claims are on the edges of the WSA, road access to the claims would not significantly affect the primitive recreation values in the WSA as a whole. However, if roads for development of private land in-holdings are constructed, the quality of primitive recreational opportunities would be reduced. The potential for such road development is uncertain.

### WILDERNESS VALUES

Wilderness designation would contribute to the preservation of the area's wilderness characteristics. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through ORV closure, and through closure of the entire area to future mineral leasing and location.

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would therefore be reduced from 316 acres under the No Action Alternative to 60 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Because there are only 60 acres (0.12 percent of the WSA) under mining claims, potential for mineral-related disturbance of wilderness values is low. Any road access developed to existing

claims would be near the edges of the WSA and would not significantly affect overall wilderness values. Access to and use of private in-holdings would eliminate solitude, naturalness, and the opportunities for primitive and unconfined recreation on the affected areas and could reduce these values in the area as a whole. The extent of future road access and use of the 3,943.72 acres of private in-holdings is unknown.

The 5,280 acres that meet the standards for solitude and the 45,220 acres that do not meet the standards would receive protection, except as affected by activities related to valid mining claims and private in-holdings. Future construction and use of access roads to the eight scattered sections of private land would significantly affect solitude.

Opportunities for primitive recreation would be protected from potential impacts from leasable mineral development and new mining claims because these activities would be prohibited, but primitive recreation could be adversely affected by valid claims and access to private in-holdings. The 20 head of wild horses would not be impacted.

Due to these prior and existing rights, application of the "Wilderness Management Policy" would not completely assure the preservation of the identified wilderness characteristics of naturalness and outstanding opportunities for solitude and primitive recreation. However, wilderness designation would serve to further the protection of these values.

The special feature identified previously (wild horse observation) would be preserved. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## LAND USE PLANS AND CONTROLS

Wilderness is not specifically addressed in the *Tooele County Master Plan*. Public land in the Cedar Mountains is designated in the plan as an outstanding natural area suitable for multiple use. In general, wilderness designation would complement the recommended management emphasis for this area, but it would conflict with the proposal that the lands be conditionally available for all uses. Wilderness designation would, by law, limit or preclude many uses of the area. This alternative would conflict with the Master Plan's multiple-use concept in that restrictive conditions would be placed on mineral development: oil and gas leases would be phased out and future leasing and location of minerals would not be allowed.

The current BLM Tooele MFP does not provide for wilderness designation. Designation of the Cedar Mountains WSA as wilderness would be an amendment to the MFP.

If State minerals (split estate) within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

## SOCIOECONOMICS

Designation of this WSA as wilderness is not expected to result in any changes to existing patterns and trends of population, employment, and local income distributions.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 12). There could be losses of $151,500 annually in mineral revenues currently provided by oil and gas leases in the WSA, as these leases would expire and not be renewed.

There would also be a potential loss annually of an unknown amount in Federal revenues from the phosphate that could be leased without designation. In addition to these leases, rental fees and potential royalties from new lease production could be foregone.

Precluding exploration and development of minerals would not alter existing local economic conditions but could reduce future economic conditions as compared to potential mineral development under the No Action Alternative. Because the potential for mineral development is low to moderate, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present (refer to Table 12). No potential range improvements to generate increased livestock income have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use an unknown amount, but related local expenditures would be small (average of $4.10 per visitor day statewide).

Motorized (ORV) recreational use of the WSA is expected to increase to 530 visitor days per year under the No Action Alternative. This use would be foregone in the WSA, but most likely would

transfer elsewhere. Increases in primitive outdoor recreation use may not offset the existing ORV use foregone in the WSA; therefore, no economic gain from recreation use of the designated wilderness would be expected. Any decrease in related expenditures in Tooele County would be insignificant to both the local economy and individual businesses.

No woodland product harvesting or rights-of-way or permits would be eliminated through wilderness designation and, therefore, would not result in any socioeconomic effects.

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# Deep Creek Mountains WSA

# DEEP CREEK MOUNTAINS WSA
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# DEEP CREEK MOUNTAINS WSA
# (UT-050-020 AND 020-060)

## INTRODUCTION

### General Description of the Area

The Deep Creek Mountains Wilderness Study Area (WSA) consists of 68,910 acres of public land in southwestern Tooele County and northwestern Juab County, Utah. About 38,170 acres of the WSA are in Tooele County and 30,740 acres are in Juab County. The WSA is about 80 miles from the community of Tooele in Tooele County and about 90 miles from Nephi in Juab County. The Nevada border is about 6 miles to the west of the WSA.

The Deep Creek Mountains rise over 8,000 feet above the desert valley floor to elevations in excess of 12,000 feet and are characterized by sheer granite cliffs and glacial cirques at the higher elevations. There is an abundance of plant and animal species. Vegetation types include sagebrush, pinyon-juniper, and montane forest. Wildlife species include mule deer, bighorn sheep, and many kinds of birds. There are two endangered species and two sensitive species of wildlife that may be found in the WSA.

Precipitation in the Deep Creek Range averages about 16 inches at lower elevations to over 25 inches on the higher slopes. There are precipitation peaks during the late summer due to thunderstorms. Temperature distributions have been recorded at Ibapah (elevation 5,280 feet). Seasonal extremes in temperature range from a low winter recording of -39 degrees Farenheit (F) to a summer high of 106 degrees F.

### Specific Issues Identified in Scoping

General issues pertaining to more than the Deep Creek Mountains WSA are discussed in Volume I. Issues and concerns raised in public scoping meetings (USDI, BLM, 1984e) and specific to the Deep Creek Mountains WSA are responded to below:

1. *Comment:* The occurrence of the sensitive plant species *Sclerocactus pubispinus* in or near this WSA should be considered in the decisionmaking process.

   *Response:* The occurrence and impact of wilderness designation and nondesignation on the sensitive plant species *Sclerocactus pubispinus, Penstemon nanus*, and *Hackelia ibapaensis* are discussed in the Vegetation sections of this document. Wilderness designation would protect these species through a reduced potential for surface-disturbing activities.

2. *Comment:* Appropriate measures for operation and maintenance of present water diversions and conveyance facilities for ensuring an adequate water supply for livestock must be permitted. Because of the scarcity of water in the West Desert, it would be highly desirable to provide for future development of the springs in the northern portions of the WSA.

   *Response:* The impact of wilderness designation and nondesignation on existing and proposed water developments is discussed under the Description of the Alternatives, Wildlife, Livestock, and Water Resources sections of this document. In general, under wilderness management, existing developments could be used and maintained as in the past based on practical necessity and reasonableness. Planned spring developments could probably be constructed as long as wilderness protection criteria could be met. A planned 500-acre chaining and reseeding project and a planned reservoir probably would not be allowable.

3. *Comment:* Would wilderness management allow for chemical treatment of water and stream stabilization and enhancement? Chemical treatment of streams is necessary so that the native fish species, Bonneville (Utah) cutthroat trout, can be reintroduced.

   *Response:* Such treatments would probably be allowed if wilderness protection criteria

STATEWIDE POCKET MAP NO. 3 SEE VOL. I

could be met. Refer to the Wildlife sections of this document.

4. *Comment:* This WSA has locatable mineral potential for gold, silver, lead, zinc, tungsten, calcium, antimony, mercury, and uranium.

*Response:* As discussed in the Mineral and Energy Resources sections of this document, the area contains moderate to high potential for gold, silver, lead, zinc, mercury, copper, and uranium. It has potential for other minerals as well. The impact of wilderness designation and nondesignation on the ability to recover these minerals is discussed.

5. *Comment:* Wilderness management could be compatible with mining in the Deep Creek Mountains.

*Response:* Wilderness and mineral tradeoffs that would occur with wilderness designation and nondesignation are discussed in the Wilderness Values and Mineral and Energy Resources sections.

6. *Comment:* Bighorn sheep have been released in this area, and wilderness designation should enhance their chances for establishment. No conflicts exist since water is sufficiently available, and deer winter range inside the WSA does not lend itself to rehabilitation.

*Response:* As discussed in the Wildlife sections of this document, wilderness designation would benefit bighorn sheep.

7. *Comment:* Would wilderness designation prohibit critical wildlife habitat (summering/wintering range) modification and management techniques (e.g., water development and chemical treatment) for the bighorn sheep transplant proposed by the Utah Division of Wildlife Resources (UDWR)?

*Response:* No crucial or critical habitat acreage has been identified in the Deep Creek Mountains for bighorn sheep to date. The area provides year-round habitat for this species. As discussed in the Wildlife section under the All Wilderness Alternative, some planned wildlife projects, such as a 500-acre chaining and seeding and a reservoir, probably would not be allowable under the "Wilderness Management Policy" (USDI, BLM, 1981a). Spring developments probably would be allowed.

8. *Comment:* Wilderness designation would protect portions of Birch Creek and Trout Creek which are Nationwide River Inventory segments with potential for study and addition to the National Wild and Scenic Rivers System.

*Response:* If an area is not designated wilderness, the current approved land use plan would determine land management direction. The segments of Birch and Trout Creeks with potential for study and addition to the National Wild and Scenic Rivers System within the WSA would continue to be managed under the provisions of the August 2, 1979 Presidential Memorandum regarding Wild and Scenic Rivers and National Trails. An August 10, 1980 Council of Environmental Quality Memorandum outlines specific actions for interagency consultation to avoid or mitigate adverse effects on rivers in the Nationwide Rivers Inventory. These procedures are required as part of the environmental analysis process regarding any proposed action that could impact an inventory river. If the area were designated wilderness, the portions of the two creeks in the WSA would be protected and preserved. The *Wilderness Act of 1964* (Eighty-Eighth Congress of the U.S., 1964) and the BLM's "Wilderness Management Policy" would then be used as a guide to determine permissible activities.

9. *Comment:* How would sonic booms from the Air Force training area impact wilderness values in the Deep Creek Mountains?

*Response:* As discussed in the Wilderness Values sections of this document, the WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. Speeds over the Deep Creek Mountains are subsonic, except over the northern portion of the WSA, where supersonic speeds are also reached. Overflights in the entire WSA and sonic booms in the northern area would be an occasional annoyance and would detract from the opportunities for solitude. However, they would not significantly reduce the WSA's outstanding opportunities for solitude.

10. *Comment:* How would wilderness values be affected by overflights in this WSA (i.e., Air Force training, commercial air traffic)?

*Response:* Refer to the response to the preceding comment. In addition, commercial air traffic occurs north of the WSA in a pattern following Interstate 80. Commercial planes are high enough and far enough north of the WSA not to affect solitude in the WSA.

11. *Comment:* The WSA has unique and scenic landforms.

*Response:* As discussed in the Visual Resources section of the Affected Environment, landforms at upper elevations (8,000 to 10,500 feet) are characterized by steep canyons, sheer cliffs, and barren peaks, providing for high quality scenery in 29,851 acres (43 percent) of the WSA.

12. *Comment:* This WSA is bordered by irrigation water, grazing rights, and private property.

*Response:* Livestock grazing privileges and the effect that wilderness designation and nondesignation would have on livestock grazing are discussed in the Livestock sections of the document. Existing grazing privileges and the ability to maintain range improvements would not change. Private property and land use controls are discussed in the Land Use Plans and Controls sections.

13. *Comment:* Would this BLM wilderness unit be consistent with other adjoining Federal lands?

*Response:* All of the Federal lands adjoining the Deep Creek Mountains WSA are managed by the BLM. Wilderness designation would be an amendment to the BLM land use plan.

14. *Comment:* Recently, two small hydroelectric generating units have been proposed for construction on the border of the WSA. A new diversion pipeline would be required inside the WSA at Birch Creek for a distance of 0.2 mile.

*Response:* This non-BLM initiated project has been proposed and analyzed in the past, but no construction has been started, as noted in the analysis in the Water Resources section. Most of the project is outside of the WSA.

15. *Comment:* The mineral potential of the WSA is ranked moderate to high by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be high. This information should be considered in the Draft Environmental Impact Statement (EIS).

*Response:* While BLM has considered information for the Deep Creek Mountains previously furnished by mining companies, at this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on mineral potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

16. *Comment:* Apparently there were irrational deletions of all or parts of the WSAs and Instant Study Areas (ISAs). After review of the Site-Specific Analysis (SSA) summaries in the scoping document, it becomes apparent that many areas have no resource conflicts and excellent wilderness qualities, and yet no acres were recommended for wilderness.

*Response:* During scoping for this EIS, BLM presented a preliminary indication of areas considered suitable or unsuitable for wilderness designation. For each WSA, this was based on site-specific analysis drafted in one of the five Utah BLM districts. The indication of suitability was made public prior to the EIS to obtain further input which has assisted in the formulation of the EIS alternatives. Additional input is expected as a result of the public review and comment on the Draft EIS. At the conclusion of the EIS process, BLM will review and consider all of the information received and at that time will formulate a final recommendation of areas found suitable for wilderness designation. Rationale for such recommendations will be included in a Wilderness Study Report to be submitted to the Secretary of the Interior and, subsequently, to Congress. The rationale will be keyed to the criteria of the "Wilderness Study Policy" and to other resource management factors generally as described in Chapter 2, Volume I of this EIS.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated from Detailed Study

During scoping, it was suggested that an alternative be prepared to cover only areas with no resource conflicts. Review of this suggestion led to the conclusion that resource conflicts can be minimized but not completely eliminated in the Deep Creek Mountains WSA; therefore, the

objective of the alternative suggested would not be fully attainable. A partial alternative is included that reduces potential mineral conflicts.

Also, an alternative was suggested to include only lands above 7,000 feet in elevation. BLM did not identify significant new information or conflict resolution that would result from such an alternative; therefore, it was eliminated from detailed study.

## Alternatives Analyzed

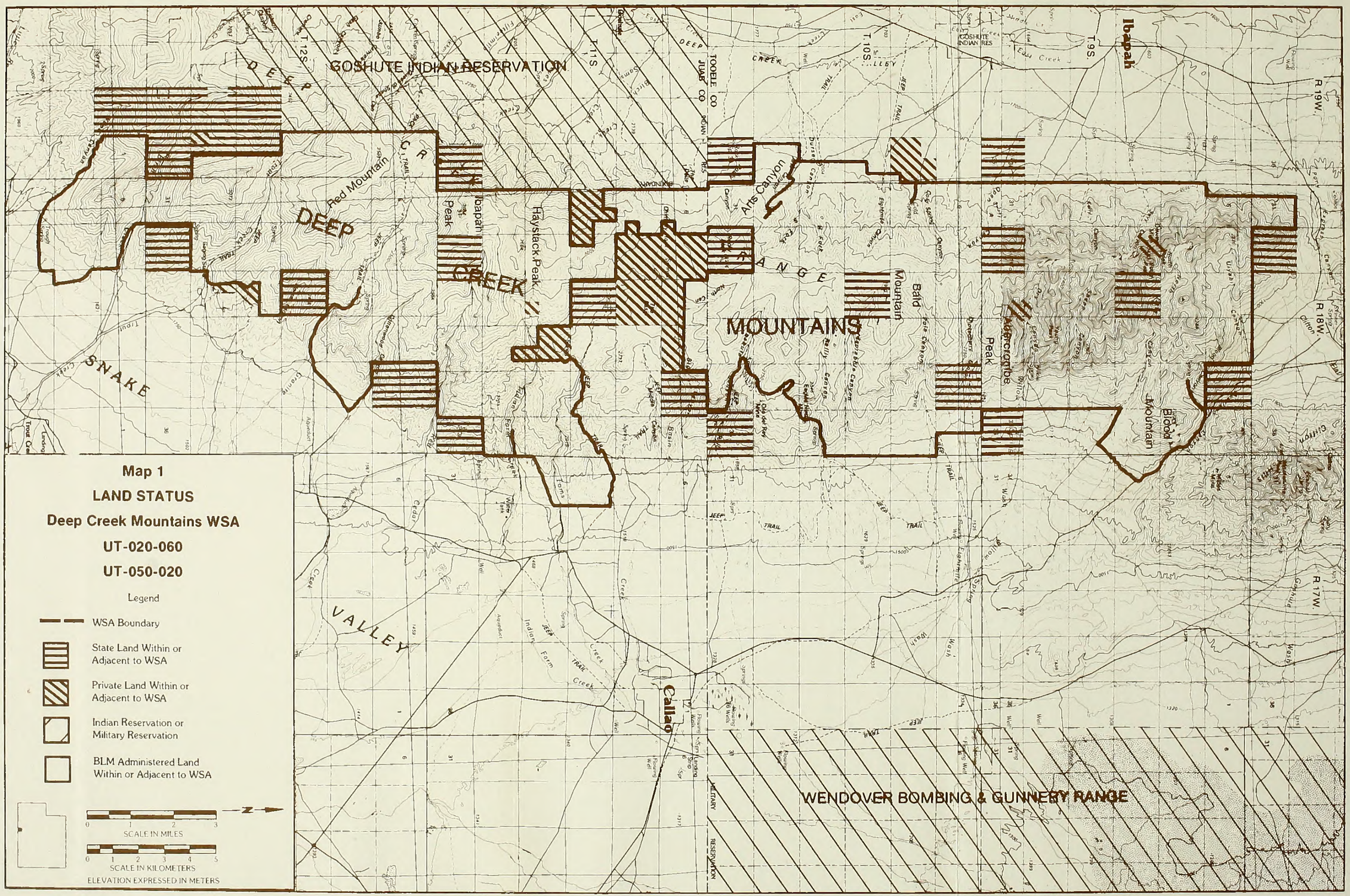
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (68,910 acres); and (3) Partial Wilderness (50,984 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 68,910 acres in the Deep Creek Mountains WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the Tooele Planning Area and West Desert Planning Area Management Framework Plans (MFPs) (USDI, BLM, 1984c and 1973) and subsequent BLM planning documents (the House Range Resource Area Resource Management Plan [RMP] is scheduled to supersede the West Desert MFP in 1986). The State land within the WSA (refer to Map 1) has not been identified in the MFPs for special Federal acquisition through exchange or purchase. State lands are analyzed as remaining under State ownership.

The following are specific actions that would take place under this alternative:

- All 68,910 acres would remain open to mineral location and sale. Development work, extraction, and patenting would be allowed on existing mining claims (1,420 acres) and potential future mining claims. Development would be regulated by unnecessary or undue degradation guidelines (43 Code of Federal Regulations [CFR] 3809) without wilderness considerations. Existing oil and gas leases (39,800 acres) could be developed under stipulations issued at the time of lease issuance. The area would be managed under Category 4 (closed to leasing) on about 14,997 acres and Category 3 (no surface occupancy) on 7,001 acres (both categories of land are in the Tooele County portion of the WSA). The remaining 46,912 acres would be managed as Category 1 (standard stipulations).
- The present domestic livestock grazing use of the 68,910-acre area of the WSA would continue as authorized in the MFPs (1,013 Animal Unit Months [AUMs]). New rangeland developments could be implemented without wilderness considerations. Redevelopment of Trough Spring and construction of a water pipeline are planned.
- Developments for wildlife would be allowed without concern for wilderness values if in conformance with BLM planning documents. Bighorn sheep were reintroduced to the WSA in 1984 and this activity would continue to be allowed. Planned wildlife habitat developments include five spring projects and one reservoir, about 240 stream and bank stabilization structures (made from hand-placed logs) on Upper Trout Creek, 500 acres of vegetation modifications (chaining and seeding), and hand-thinning of aspen in two locations.
- The present 52,738-acre off-road vehicle (ORV) closure would remain in effect unless subsequently modified by future planning determinations. Approximately 15 miles of ways and jeep trails would remain open to vehicular use. Access to private land in-holdings (256 acres) would continue to be allowed.
- The entire 68,910-acre area would continue to be open to woodland product harvest. There is a small harvest of forest products (mostly pine nuts) at the present time, although there is potential for increased harvest of posts, firewood, and pine nuts.
- The area would continue to be managed under Visual Resource Management (VRM) Class II (38,639 acres), Class III (20,026 acres), and Class IV (10,245 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.


GOSHUTE INDIAN RESERVATION
DEEP CREEK MOUNTAINS
SNAKE VALLEY
Red Mountain
Ibapah Peak
Haystack Peak
Ibapah
Arts Canyon
Bald Mountain
Fool Creek Canyon
Thorncombs Peak
Blood Mountain
Callao
WENDOVER BOMBING & GUNNERY RANGE
MILITARY RESERVATION
TOOELE CO
JUAB CO
T.12S.
T.11S.
T.10S.
T.9S.
R 19W.
R 18W.
R 17W.
Deep Creek
Trout Creek
Indian Farm Creek
JEEP TRAIL
Map 1
LAND STATUS
Deep Creek Mountains WSA
UT-020-060
UT-050-020
Legend
WSA Boundary
State Land Within or Adjacent to WSA
Private Land Within or Adjacent to WSA
Indian Reservation or Military Reservation
BLM Administered Land Within or Adjacent to WSA
N
0 1 2 3
SCALE IN MILES
0 1 2 3 4 5
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS

- Hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 68,910 acres of the Deep Creek Mountains WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981a) to preserve its wilderness character. Upon designation, acquisition of five sections of State land (3,200 acres) within the WSA (refer to Map 1) is likely, and would be authorized by purchase or exchange (refer to Appendix 3). Five of the 18 State sections adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands and no specific analysis is given here. The figures and acreages given under this alternative are for Federal lands only. Three tracts totaling 256 acres of private land are within the WSA.

The following are specific actions that would be taken under this alternative:

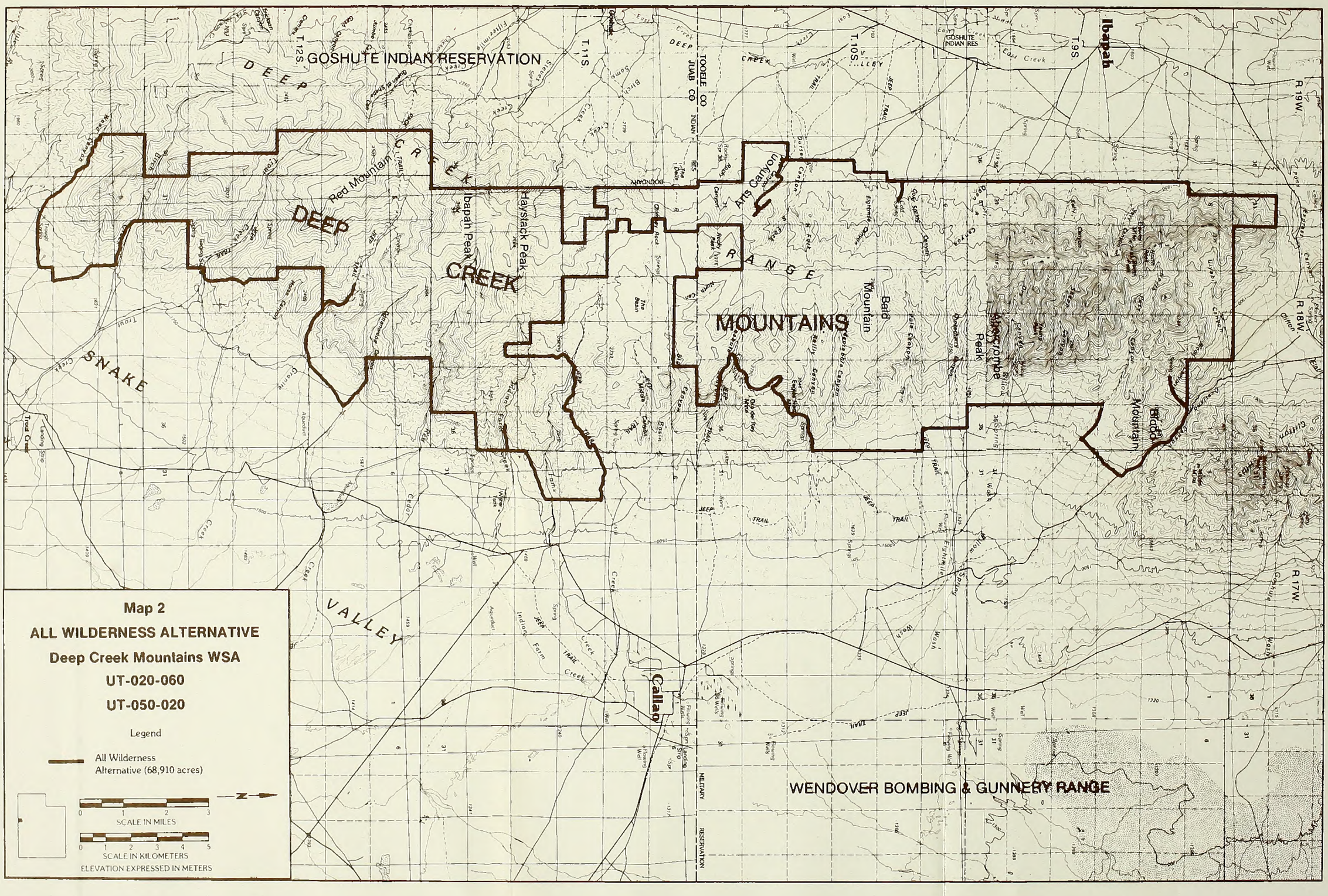
- After wilderness designation, all 68,910 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 1,420 acres of existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809), with concern for wilderness values. Existing oil and gas leases involving 39,800 acres would be phased out upon expiration unless a find of oil or gas resources in commercial quantities is shown.
- Present domestic livestock grazing would be allowed to continue as authorized in the Tooele and West Desert MFPs. The 1,013 AUMs in the WSA would remain available to livestock as presently allotted. After designation, maintenance of existing rangeland developments (there is one partly developed spring [Trough Spring] with pipes and troughs) would be allowed as in the past, based on practical necessity and reasonableness. New rangeland developments would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources. No areas within the WSA have been identified for future rangeland developments for livestock, except for redevelopment of Trough Spring with the addition of 1 mile of pipeline. The planned pipeline would be allowed if installed in a manner consistent with wilderness protection criteria.
- New water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed after designation only if enhancing to wilderness values, if needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. A short (0.2 mile) buried pipeline in the WSA has been proposed in connection with two small hydroelectric projects planned adjacent to the WSA. A right-of-way for the pipeline has been granted.
- Wildlife transplants or habitat developments would be allowed after designation if they maintain or enhance wilderness values. Wildlife projects would be considered for approval on a case-by-case basis. It is assumed that planned spring developments and the stream stabilization efforts (hand-placed logs) would be allowed, provided they are consistent with wilderness protection standards (refer to Appendix 1). It is assumed that the reservoir and the 500-acre vegetation chaining and reseeding project would not be allowed. However, limited hand-thinning of aspen in two locations might be allowed.
- The entire 68,910-acre area would be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. About 15 miles of existing vehicular ways and jeep trails would not be available for vehicular use except as indicated above. About 8 miles (approximately 10 percent) of the WSA boundary follow existing gravel and dirt roads that would remain open to vehicular travel. Short segments of five existing

roads, totaling about 4 miles, would be "cherry-stemmed," would dead-end into the WSA, and would be open to vehicles. These segments are at the edge of the WSA near Granite Creek, Indian Farm Creek, Overlook Canyon, Cold Spring Canyon, and Arts Canyon. Access to 256 acres of private land in-holdings (three locations) would be allowed.

- A specific Wilderness Management Plan would be developed that would govern use and protection of the 68,910-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is limited harvest of forest products at the present time, and increased harvest is not specifically planned.
- Visual resources on all 68,910 acres would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 68,910-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Controls would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources in the 68,910-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock it would be accomplished by methods directed at eliminating the offending individuals, while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 50,984 acres of the Deep Creek Mountains WSA would be designated as wilderness (refer to Map 3). The designated area would include about 21,860 acres in Tooele County and 29,124 acres in Juab County. The objective of this alternative is to analyze as wilderness that portion of the WSA having the most outstanding wilderness characteristics, as well as to avoid conflict with that portion of the WSA with the highest potential mineral values. The 50,984 acres analyzed as wilderness under this alternative include most of the southern part and about two-thirds of the northern part of the WSA. This generally includes the steepest and most mountainous portion of the WSA. The 17,926-acre area (north and northeast side and four small areas along the southeast side) within the WSA, but outside of that designated as wilderness, would be managed in accordance with the current Tooele and West Desert MFPs, as described for the No Action Alternative. The 50,984-acre area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative. This alternative would likely involve Federal acquisition of three sections of State land by purchase or exchange (refer to Appendix 3). Six of the fifteen State sections adjacent to this alternative area likely would be exchanged. Assumptions regarding analysis and impacts for State lands involved in the Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. The figures and acreages under this alternative are for Federal lands only.




**Map 2**

**ALL WILDERNESS ALTERNATIVE**

**Deep Creek Mountains WSA**

**UT-020-060**

**UT-050-020**

Legend

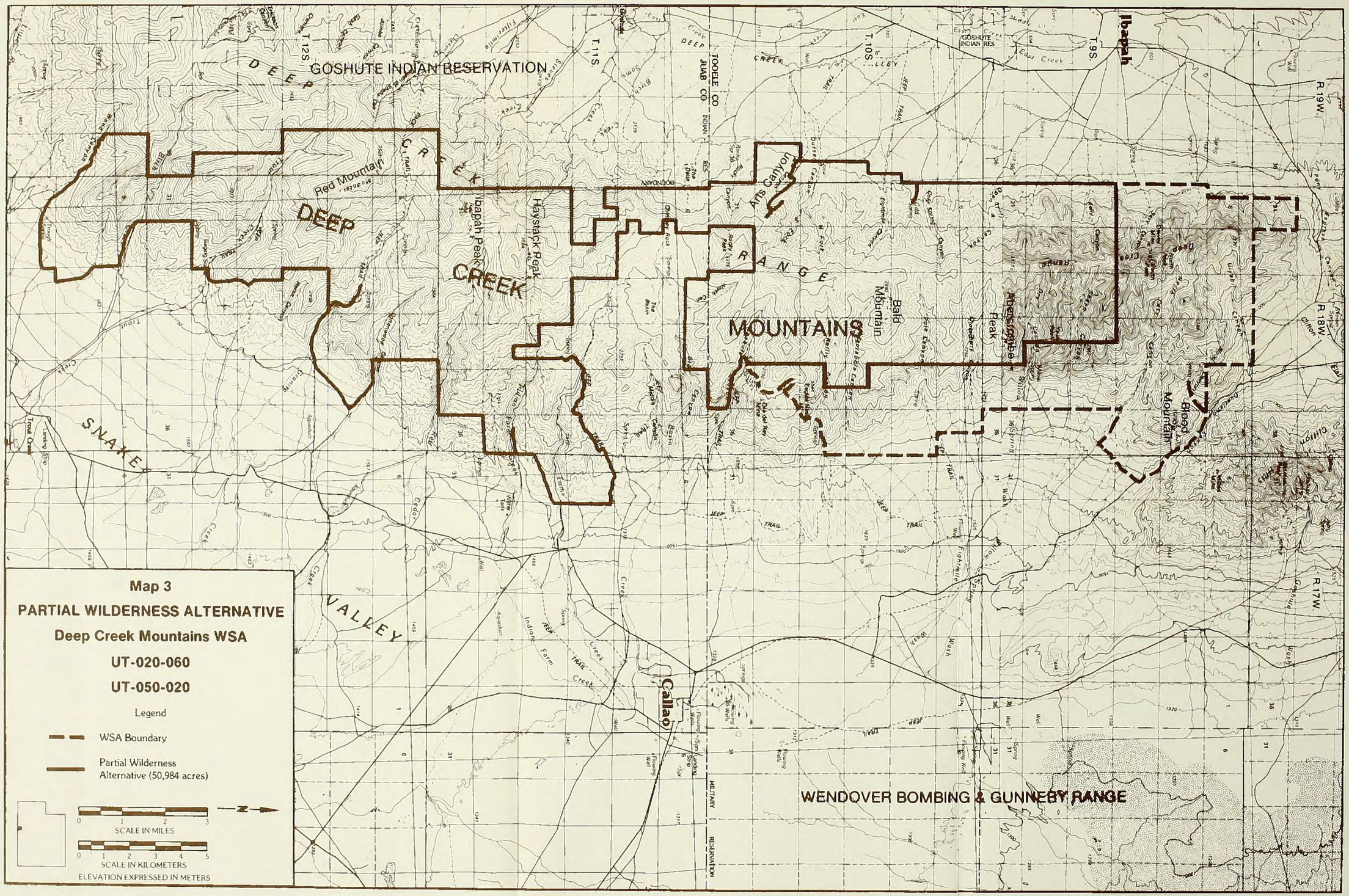
All Wilderness Alternative (68,910 acres)

N

0 1 2 3
SCALE IN MILES

0 1 2 3 4 5
SCALE IN KILOMETERS

ELEVATION EXPRESSED IN METERS


GOSHUTE INDIAN RESERVATION
DEEP CREEK MOUNTAINS
DEEP CREEK
SNAKE CREEK VALLEY
Red Mountain
Ibapah Peak
Haystack Peak
Ants Canyon
Bald Mountain
Antelope Peak
Blood Mountain
Ibapah
Callao
GOSHUTE INDIAN RES
TOOELE CO
JUAB CO
INDIAN RES
MILITARY RESERVATION
WENDOVER BOMBING & GUNNERY RANGE
T. 12S.
T. 11S.
T. 10S.
T. 9S.
R. 19W.
R. 18W.
R. 17W.
Map 3
PARTIAL WILDERNESS ALTERNATIVE
Deep Creek Mountains WSA
UT-020-060
UT-050-020
Legend
WSA Boundary
Partial Wilderness Alternative (50,984 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS

A summary of specific actions follows:

- The 50,984-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing (Category 4) and sale. In the 50,984-acre area development work, extraction, and patenting would be allowed to continue on 620 acres of existing mining claims provided that they are valid. The existing oil and gas leases covering approximately 23,490 acres would be phased out upon expiration, unless an oil or gas find in commercial quantities is shown. The 17,926-acre area not designated wilderness would be open to future mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (800 acres) and future mining claims could occur in the 17,926-acre area if claims are valid. The area not designated would be managed as leasing Category 1 (standard stipulations). Development of existing oil and gas leases in this area could occur under existing stipulations. Development of future leases could occur without concern for wilderness values.
- Domestic livestock grazing would continue to occur in the 50,984-acre wilderness area. The AUMs in the 50,984-acre area would remain available to livestock as presently allotted (approximately 679 AUMs). New rangeland facilities could be developed in the 50,984-acre wilderness only if necessary for protection and management of the rangeland and/or wilderness resource provided wilderness protection standards are met (refer to Appendix 1). None are proposed in this area. In the 17,926-acre nonwilderness area, grazing use would continue as authorized in the MFP (approximately 334 AUMs). New rangeland developments (redevelopment of Trough Spring) could be installed in this area without concern for wilderness values.
- In the 50,984-acre wilderness, new water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed only if compatible with wilderness, if needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 17,926-acre area, water resource facility developments would be allowed if in accordance with the MFP, without concern for wilderness values. A short buried pipeline associated with small hydroelectric projects, as noted in the Description of the All Wilderness Alternative, would be within the area designated as wilderness in this Partial Wilderness Alternative.
- In the 50,984-acre wilderness, wildlife transplants or habitat improvements would be allowed only if compatible with wilderness values. Bighorn sheep reintroduction would continue to be allowed. Planned wildlife developments in the 50,984-acre area include one spring, 210 stream and bank stabilization structures, 500 acres of vegetation manipulation, and hand-thinning of aspen in two locations. The spring project and the stream stabilization features would be allowed if consistent with wilderness protection standards. It is assumed that the 500-acre vegetation manipulation would not be allowed. In the remaining 17,926-acre area, wildlife transplants or improvements, including the planned reservoir, would be allowed without concern for wilderness values.
- The mountains and canyons that would comprise the 50,984-acre wilderness would be closed to ORV use. Short segments of four existing roads, totaling about 3 miles, would be "cherry-stemmed" and would provide vehicular access near Granite Creek, Indian Farm Creek, Gold Spring Canyon, and Arts Canyon. Access to about 140 acres (two locations) of private land in-holdings would be allowed. About 10 miles of existing ways and jeep trails would not be available for vehicular use except in situations described under the All Wilderness Alternative. Of the 17,926 acres not designated in the WSA, 16,172 acres would be open to ORV use. About 1,754 acres in Juab County would continue to be closed to ORV use unless future planning changes the closed designation. The 5 miles of ways and jeep trails in this area would be available for use.
- A specific Wilderness Management Plan would be developed that would govern use and protection of the 50,984-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel

surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.

- Harvest of forest products in the 50,984 acres of wilderness would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining 17,926 acres would be open to woodland harvest, although none is specifically planned.
- Visual resources on the 50,984-acre wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 17,926 acres would be managed as Class III on 8,726 acres and Class IV on 9,200 acres.
- Within the 50,984-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that controls would be by hand or aerial methods. In the 17,926-acre nonwilderness area, measures of control would be taken without wilderness considerations.
- In the 17,926-acre nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 50,984-acre wilderness, such activity would be allowed by permit, but would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures, unless no other feasible alternatives exist.
- In the 17,926-acre area, hunting would be allowed subject to applicable State and Federal laws and regulations. In the 50,984-acre wilderness, such hunting would also be allowed, but use would be limited to nonmotorized means.
- In the 17,926-acre area, control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the 50,984-acre wilderness, control of predators would be allowed for the same objectives, but poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences that would result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to provide a comparison of the alternatives.

## AFFECTED ENVIRONMENT

### Air Quality

The Deep Creek Mountains WSA is in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act, as amended. The quality of the air is generally good to excellent. The nearest Class I area (extremely limited air quality degradation permitted) is Capitol Reef National Park, 150 miles to the southeast.

Unimpaired visibility is an important value of the WSA. Panoramas of Great Basin blockfaulted mountains rising steeply from sagebrush-covered plains are greatly enhanced by the generally excellent clarity of the air. The WSA is near the center of an area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

### Geology

The Deep Creek Range of west-central Utah is perhaps the most prominent, highest, and most unique landmark in western Utah. As the third highest range in the Great Basin area of the Basin and Range Physiographic Province, the Deep Creek Mountains dominate their geologic setting in altitude and sheer mass. To the north and east of the range stretches the vast, flat Great Salt Lake Desert. To the south and west, beyond the limit of unaided vision, lie scattered mountain ranges. Out of this barren landscape, between alluvial outwash and playa basins, arise two 12,000-foot elevation peaks and a 30-mile-long 8,000- to 11,000-foot elevation ridgeline that is the Deep Creek Range. Topographic relief extends upwards from the 4,000-foot elevation basin floor.

# TABLE 1
# SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
# DEEP CREEK MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (68,910 Acres) | Partial Wilderness Designation (50,984 Acres) (Proposed Action) |
| Mineral and Energy Resources | Potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 500 tons of uranium oxide, 500 tons of gold, 10,000 tons of silver, 50,000 to 1 million tons of copper, 500 tons of tungsten, 1,000 tons of beryllium oxide, and 50,000 to 1 million tons of lead and zinc. There is some potential for low temperature geothermal energy, barite, mercury, and molybdenum. The probability of development is high for locatable minerals. | Oil, gas, and geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. The loss of development opportunity would be significant for locatable minerals. | Up to 0.8 million barrels of oil, 5 billion cubic feet of natural gas, 130 tons of uranium oxide, 130 tons of gold, 2,600 tons of silver, 13,000 to 260,000 tons of copper, 130 tons of tungsten, 260 tons of beryllium oxide, and 13,000 to 260,000 tons of lead and zinc could be recovered. The probability for development of locatable minerals is high. |
| Wildlife | About 1.5 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. Proposed developments for wildlife, including 5 springs, 160 stream improvements, 80 bank stabilization structures, 500 acres of vegetation manipulation, and one reservoir, would improve wildlife habitat. | Wildlife would benefit from solitude. However, benefits from vegetation manipulation and the reservoir would be lost. | Wildlife in the designated area would benefit from solitude. About 3 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development which could adversely affect wildlife habitat. Benefits from the vegetation manipulation would be lost. |
| Livestock | Grazing of 1,013 AUMs and maintenance of existing developments would continue. Proposed new developments could be constructed. | Grazing of 1,013 AUMs and maintenance of existing developments would continue. Vehicle access for livestock permittees would be regulated to infrequent trips which could result in inconvenience for permittees. Proposed new developments might not be allowed. | Effects would be about the same as for the All Wilderness Alternative. Proposed new developments might be allowed in the nondesignated portion. |
| Visual Resources | The quality of visual resources would be impaired on 1,546 acres. | Visual quality could be impaired on up to 880 acres. | Visual quality could be impaired on up to 922 acres, including 355 acres in the designated portion. All of the Class A scenery would be within the designated portion and would be protected by the reduced potential for disturbance. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## DEEP CREEK MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (68,910 Acres) | Partial Wilderness Designation (50,984 Acres) (Proposed Action) |
| Recreation | ORV use would continue on 15 miles of ways at current levels. About 76 percent of the WSA would remain closed to ORV use. Overall recreational use could increase from the present 8,000 visitor days per year to 11,920 over the next 20 years. Up to 1,046 acres of mineral-related disturbance and 500 acres of land treatment could reduce the quality of primitive recreation. | The WSA, including 15 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 5 miles of ways in the undesignated portion. |
| Wilderness Values | Wilderness values could be lost on up to 1,546 acres (2 percent of the WSA). Values in the rest of the WSA could be affected, depending on the location of disturbance. Most mineral values are in Tooele County in the northern portion of the unit. | Wilderness values would be protected, except on up to 880 acres (1.3 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 355 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on 3 percent of the 17,926 acres not designated. Overall, wilderness values could be lost on 1.3 percent of the WSA. However, 74 percent of the area meeting the standards for naturalness and 82 percent of the area meeting the standards for outstanding solitude and primitive recreation would be in the designated portion and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Tooele County Master Plan,* Juab County's concept of multiple use, State of Utah plans and policies, and the BLM Topaz MFP. It would not be consistent with the BLM Tooele MFP, which recommends wilderness for a portion of the MFP. | This alternative would not be consistent with Tooele and Juab Counties' concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM Topaz MFP and also the BLM Tooele MFP, which does not recommend that the entire WSA be designated. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that the portion not designated would be consistent with Tooele and Juab Counties' concepts of multiple use and amendment of the BLM Tooele MFP would not be required. |
| Socio-economics | Annual local sales of less than $61,660 and Federal revenues of up to $156,058 would continue. An additional $42,339 per year in Federal revenues could be derived from leasing of presently unleased areas. Local income could increase due to mining of locatable minerals in the WSA. | Annual local sales of less than $61,660 and Federal revenues of up to $1,418 would continue, but Federal revenues of up to $161,739 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $112,809. Most of the mineral values would be in the nondesignated portion and could be developed without consideration for wilderness values. |

Geologically, the northern half of the range differs markedly from the southern half, although some common geologic structures are evident along the entire range.

The topography of the WSA is characteristic of Basin and Range country. The Deep Creek Mountains rise steeply above the surrounding valleys, trending generally north-south along blockfault planes. Because these are blockfaulted mountains, foothills are generally absent, and a sharp contrast exists between mountains and valleys.

There is a large granitic body underlying the central portions of the WSA. In addition to contributing to the high rugged topography of the area, the intrusive body has induced mineralization (gold, silver, copper, etc.). Much of the associated mining activity is in the northern half of the mountain range mostly outside the WSA, but there are still excellent rockhounding opportunities throughout the WSA.

## Soils

There are four general soil associations in the WSA. Soil associations vary considerably, depending on elevation, slope, and parent material. The largest portion is moderate to very deep cobbly loams formed in alluvium and residium derived from granites, quartzite, sandstone, and limestone. Other soils are cobbly loams, clay loams, and silt loams developed from domolite, igneous, sedimentary, and limestone material. The entire WSA (68,910 acres) is in the slight erosion condition class which indicates very little erosion activity (0.6 cubic yard/acre annually). Erosion condition class is based on soil surface factors (terms are defined in the Glossary). The current annual soil loss for the WSA is approximately 41,346 cubic yards.

## Vegetation

The Deep Creek Mountains WSA lies within the Bonneville Basin Section of the Great Basin Division of the Intermountain Botanical Region (Cronquist, Holmgren, Holmgren, and Reveal, 1972). The WSA is exceptional because it has representatives from several different floras. Plant species from the Snake Range and Pine Valley Mountains to the south and the Utah Plateaus and Wasatch Range to the north and east occur in the Deep Creek Mountains. Major existing vegetation types are summarized in Table 2.

The pinyon-juniper association dominates the WSA. This association includes Utah juniper, bluebunch wheatgrass, big sagebrush, and a wide variety of forbs.

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Pinyon-juniper | 37,212 | 54 |
| Montane conifer | 19,984 | 29 |
| Sagebrush-grass | 8,958 | 13 |
| Desert shrub | 2,756 | 4 |
| Total | 68,910 | 100 |

Sources: USDI, BLM, 1982c and 1973.

The most interesting community present is the montane forest, found on the higher elevations of the south and west slopes. Associated species include white fir, subalpine fir, Engelmann spruce, Douglas fir, and ponderosa, bristlecone, and limber pine. Bristlecone and limber pine occur on ridgetops with some ponderosa scattered among the Douglas and white fir.

A unique ecological component of the WSA is the bristlecone pine. Some of the trees have approached the size and appearance of the trees in California's Methuselah Grove, home of the world's oldest living trees. There are also significant stands of young bristlecone pine that provide the WSA with a self-perpetuating community of significant ecological interest.

The lower slopes and foothills of the WSA are covered by sagebrush and desert shrub communities comprised of sagebrush, shadscale, horsebrush, rabbitbrush, saltbush, winter fat, Mormon tea, snakeweed, cactus, and associated grasses.

There are an estimated 182 acres of riparian vegetation along the seven streams in the southern portion of the WSA. Some 120 acres of additional riparian vegetation are found in the canyons of the northern portion of the WSA (5 miles of canyon bottoms).

There are no threatened, endangered, or sensitive plant species that are known to occur within the WSA. Three sensitive (candidate species under review by the Fish and Wildlife Service [FWS] for threatened or endangered status) plant species occur near the WSA and are likely to occur in the WSA. These are *Penstemon nanus, Sclerocactus pubispinus*, and *Hackelia ibapaensis*. In addition, a new plant was discovered just outside Goshute Canyon in 1981. This is the only known location of the plant in the world. Still unnamed, this plant may be proposed for threatened, endangered, or

sensitive status once its population and distribution have been studied.

The Deep Creek Mountains WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types in the WSA are listed in Table 3. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 25,000 | 36 |
| Western ponderosa forest | 23,910 | 35 |
| Great Basin sagebrush | 14,000 | 20 |
| Saltbush-greasewood | 6,000 | 9 |
| Total | 68,910 | 100 |

Source: USDI, Geological Survey, 1978.

## Water Resources

The Juab County portion of the Deep Creek Mountains WSA includes seven perennial streams totaling 20 miles in length. The water quality of these streams is good and all are used for irrigation downstream in the valleys. Other uses include wildlife, domestic livestock, and small town and ranch culinary use. All of these creeks are diverted into concrete-lined ditches or concrete pipelines to carry the water across rocky foothills outside the WSA to the farms located in the valley.

Trough Spring is located at the extreme southern tip of the WSA; the water is of good quality and used primarily by sheep and cattle. Flow is estimated at 20 gallons per minute (gpm).

Water sources are scarce in the Tooele County portion of the Deep Creek Mountains. Only 1 mile of one perennial stream is located in Tooele County. Water from this stream is collected in a valley reservoir and used for irrigation. Four small springs are also located in the Tooele County portion of the WSA. All of these water sources flow freely. None are used for culinary or irrigation purposes. The combined overflow from all four springs (40 gpm maximum) would not fill a streambed or an irrigation ditch for an extended length of time. Within the WSA, only Trough Spring has improvements (pipes, troughs, etc.) in place.

Two private, small hydroelectric generating projects have been proposed, involving the lower parts of Birch, Trout, and Granite Creeks (USDI, BLM, 1982d). Most features of these projects would be adjacent to and outside of the WSA; however, water diversion pipelines could extend a short distance (0.2 mile) into the WSA. Rights-of-way for these water resource developments have been issued; however, as of March 1985, no construction has been carried out pending approvals from the Federal Energy Regulatory Commission.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

An overall importance rating (OIR) of 2+ was assigned to the Deep Creek Mountains WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines, in an independent mineral investigation report for the WSA. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The mineral and energy resource rating summary by SAI is given in Table 4. It is noted, that for the Deep Creek Mountains WSA, SAI did not rate lead, zinc, mercury, beryllium, barite, molybdenum, and tungsten. Based on consideration of these minerals and further information on gold, silver, and copper potentials, BLM has given the Deep Creek Mountains WSA an OIR of 3+ for

**TABLE 4**

**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 million cubic feet of gas |
| Uranium | f2 | c2 | Less than 500 tons of uranium oxide |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c2 | Low temperture resource |
| Hydropower | f1 | c4 | None |
| Gold[3] | f2 | c3 | Up to 25 tons |
| Silver[3] | f2 | c3 | Up to 500 tons |
| Copper[3] | f2 | c3 | Up to 50,000 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, 4 = highest).

[3] Refer to Table 5.

mineral resources. BLM has given barite a favorability rating of 2; lead, zinc, mercury, and copper, favorability ratings of f3; and beryllium, molybdenum, gold, and silver favorability ratings of f4. BLM has not estimated amounts of reserves for these minerals; however, using the SAI reserve estimates for similar ratings, adjusted reserves for these locatable minerals are provided in Table 5.

**TABLE 5**

**Adjusted Resource Summary for Selected Minerals**

| Mineral | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[1] | |
| Barite | f2 | c1 | Undetermined |
| Beryllium | f4 | c4 | More than 1,000 tons of oxide |
| Copper | f3 | c4 | 50,000 to 1 million tons |
| Gold | f4 | c4 | More than 500 tons of gold |
| Lead/Zinc | f3 | c4 | 50,000 to 1 million tons |
| Mercury | f3 | c4 | Undetermined |
| Molybdenum | f4 | c3 | Undetermined |
| Silver | f4 | c4 | More than 10,000 tons |
| Tungsten | f2 | c4 | Less than 500 tons |

Sources: BLM Ratings and SAI, 1982.

[1] Refer to Table 4 footnotes.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency, but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA contains deposits of copper, beryllium, silver, mercury, zinc, lead, tungsten, and molybdenum, that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983). Although listed as strategic and critical, copper is relatively common. Supplies currently exceed domestic demand.

## LEASABLE MINERALS

There are no known deposits of leasable minerals in the WSA. The major reason for this is geologic: a large granitic intrusive body of rock in the WSA has altered the surrounding sedimentary rock by heat and pressure. Any pre-existing reservoirs of oil and gas were likely destroyed; there are no known source or reservoir rocks exposed in the WSA.

Leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981a). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases that are producing oil or gas prior to their original expiration date, or those that are part of a unitized field, would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

There are no pre-FLPMA leases in the WSA. There are approximately 39,800 acres of post-FLPMA leases for oil and gas, primarily in the northern part of the WSA. There are no geothermal leases.

There are currently no active exploration or drilling activities involving leasable minerals taking place in the WSA or the immediate vicinity. There are no producing wells in the area. The favorability for the occurrence of oil, gas, or geothermal resources is considered low in the Deep Creek Mountains WSA. If oil and gas does exist in the WSA, it is expected to be less than 3 million barrels of recoverable oil and less than 18 billion cubic feet of recoverable natural gas.

Currently the WSA is managed under oil and gas Category 4 (closed to leasing) on about 14,997 acres and Category 3 (no surface occupancy) on 7,001 acres in the Tooele County area. The remaining 46,912 acres in the Tooele and Juab County areas are Category 1 (standard stipulations).

Considering the low geologic favorability for leasable minerals, the rough topography, limited access, and potential expiration of some existing leases, it is unlikely there will be any significant oil, gas, or geothermal development in the WSA.

## LOCATABLE MINERALS

Four main types of ore bodies have been encountered in the area. They include pegmatite dikes, hydrothermal veins, hydrothermal replacements, and contact replacements. The entire WSA lies within the Deep Creek-Tintic mineral belt; 95 percent of all of Utah's gold, silver, copper, lead, and zinc production has come from three such mineral belts (SAI, 1982).

Locatable minerals known to occur within the WSA include gold, silver, lead, zinc, tungsten, copper, mercury, beryllium, and molybdenum. There is also a potential for uranium and barite.

The geologic favorability for the occurrence of the various locatable minerals ranges from low to high (refer to Table 5 for favorability ratings and estimated quantities). This favorability is based on the geologic environment of the WSA, industry experiences, published literature, and actual production from mines near the WSA.

In the WSA, there are 51 mining claims covering approximately 1,420 acres. Most claims are in the Tooele County portion of the WSA. Two of the private in-holdings, totaling 216 acres of land in the WSA, are patented claims for the Roy and Dewey Mines.

There are two organized mining districts in the Tooele County portion of the Deep Creek Mountains, Willow Springs and Clifton (or Gold Hill). Claims associated with past mining operations in these Districts overlap the WSA boundary and would be subject to exercise of valid existing rights. From 1934 to 1954, the Willow Springs District produced minerals as follows: gold, greater than 11,000 ounces; silver, greater than 45,000 ounces; lead, 2,767,000 lbs.; copper, 20,000 lbs.; zinc, 30,000 lbs; and mercury, greater than 15,000 lbs. (Doelling and Perry, 1979).

The Clifton (Gold Hill) Mining District produced minerals in the following amounts between 1901 and 1964: gold, 25,000 ounces; silver, 832,000 ounces; and copper, 1,700 tons (El-Shatourg and Whelan, 1970).

It has been estimated that between $750,000 to $1 million worth of mineral commodities have been produced from the area. In recent years, locatable mineral activity in the Deep Creek Mountains has been sporadic. Exploration and core drilling are seasonally ongoing in the north end outside of the WSA boundary. Mining, production, and milling have occurred in Goshute Canyon, and mining activities have occurred in Queen of Sheba and Arts Canyons. Prospecting and claiming occur on occasion. The value of recent minerals extracted from the Deep Creek Mountain vicinity is not known. Considering the estimated mineral reserves, plus past and present production from existing mining operations, it is likely that exploration and mining activity will continue in the vicinity of the WSA. This activity likely will be centered around existing claim groups; mining activity will expand along known deposits in a logical pace and progression and may ultimately increase. Within the 68,910 acres of the WSA, the most likely areas to be involved in additional mining are on the north and east sides in Tooele County, although parts of several claim groups exist elsewhere within the WSA.

### Barite

There are no known occurrences, exploration, or production of barite in the vicinity of the WSA, but the favorability is rated medium based on general information provided by industry.

### Beryllium

This mineral occurs in the vicinity of the Trout Creek mining properties (Thomson, 1973). Although there is no production within the WSA the favorability appears to be high, based on the geologic characteristics of the Deep Creek Mountains and known beryllium deposits in other locations within Utah's West Desert.

### Copper

Scattered occurrences of copper exist within and near the WSA (SAI, 1982; Thomson, 1973). Consequently, the favorability for copper is considered moderate.

### Gold and Silver

Most prospecting and mining in the Deep Creek Mountains have involved gold and silver. These metals are known to occur adjacent to and outside of the WSA boundary in the southwest, south, northeast, and north portions of the Deep Creek Mountains. Some evidence indicated that, although the geology of the area is generally favorable for gold and silver, these minerals may not exist in significant deposits within the WSA (SAI, 1982). However, because of the proximity of known mines and deposits of base and precious metals and the historic production of the two mining districts in the area, BLM and industry representatives rate the favorability high for the WSA.

### Lead and Zinc

There are no known occurrences of lead and zinc in the WSA; however, these minerals have been recovered in adjacent areas. The WSA has a favorable geologic environment for these minerals. Base metal deposits in western Utah are related chiefly to Tertiary igneous activity and associated hydrothermal alteration. The bulk of these deposits occur with two west-trending zones, one of which is the Deep Creek-Tintic Mineral Belt (SAI, 1982).

### Mercury

Mercury has been recovered primarily from the Conger Hill property in Arts Canyon on the west side of the WSA. Therefore, the WSA has a moderate favorability for further extraction of mercury.

### Molybdenum

Molybdenum is known to occur in the area, although known deposits have only small quantities. No known production has occurred in the WSA, but it is rated as highly favorable based on industry expectations of the potential availability of the resource.

### Tungsten

This mineral is known to occur at the boundary of the WSA in the Trout Creek vicinity. There are numerous mine workings and past production has occurred near the WSA. On this basis the favorability of occurrence is rated as high.

### Uranium

No uranium deposits are known to occur in the Deep Creek Mountains. Although there is some possibility that uranium may occur in deep deposits, the likelihood is predicted to be low.

### SALABLE MINERALS

Salable minerals within the WSA, mostly riprap material, are of low quality. There are no established material sale sites within the WSA and, due to material quality, distance to markets, and the large statewide reserves, no demand for such sites is foreseen.

## Wildlife

The Deep Creek Mountains WSA provides habitat for a variety of animal species. There are 83 species of mammals, 185 species of birds, 18 species of reptiles, six species of amphibians, and two species of fish that inhabit the area at different times of the year. Although a great diversity exists, no one species could be described as abundant. An estimated 460 mule deer inhabit the Deep Creek Mountains (USDI, BLM, 1981c).

There are two endangered species (bald eagle and peregrine falcon) and two sensitive species (golden eagle and Utah cutthroat trout) that are found in the WSA. Although there are no Federally designated critical habitats in the WSA, the area is considered crucial yearlong golden eagle habitat. The upper reaches of two streams, Birch and Trout Creeks, support Utah cutthroat trout and are considered crucial habitat.

There are about 8,000 acres of crucial deer winter and 3,000 acres of crucial deer summer range within the WSA boundary.

Approximately 68,000 acres in the WSA are managed under the Deep Creek Mountain and Trout Creek Habitat Management Plans (USDI, BLM, 1977 and 1981c). Planned habitat improvement projects include: (1) development of five springs and one reservoir; (2) installation of 160 stream improvement and 80 bank stabilization structures; and (3) vegetation manipulation on 500 acres, including reseeding on 300 acres.

The UDWR reintroduced Rocky Mountain bighorn sheep into its historical range within the WSA in January 1984. The herd consists of 22 sheep. No crucial or critical habitat acreage has been established for this species to date.

## Forest Resources

Within the Tooele County portion of the Deep Creek range, there are approximately 3,000 acres of low grade commercial conifers. An additional 7,000 acres contain scattered conifers mixed with riparian species, aspen, and mountain mahogany. None of the forest species identified in the north part of the WSA are suitably located or stocked with a board foot volume to provide a commercial marketable product. In the southern part of the WSA, about 4,900 acres of commercial quality woodland would produce about 500,000 board feet of lumber; however, only about 25,000 board feet are presently accessible. It is unlikely that any new roads would be constructed in the Deep Creek Mountains for forest product harvest.

Approximately 37,212 acres of pinyon-juniper woodland cover 54 percent of the WSA and are found in the lower slopes. Access is steep and often inaccessible. Presently, all use of woodland products on the north Deep Creek Mountains is confined to pinyon-juniper harvest outside the WSA. Within the Juab County portion of the WSA, there are about 6,000 acres of pinyon-juniper, with a potential production of about 52,980 cords of fuelwood, 11,101 cords of juniper, and about 47,000 lbs. of pine nuts in high production years (1 in every 7 to 10 years). Existing use includes about 20 cords of firewood and a few fenceposts harvested annually by local families. There have not been any commercial permits issued for either firewood or posts. About 500 lbs. of pine nuts are harvested annually. In high production years, about 7,000 lbs. of pine nuts are harvested.

## Livestock and Wild Horses/Burros

The existing livestock use inside the WSA consists of sheep and cattle grazing in portions of five allotments. There are 20 operators who run livestock in these five allotments; however, only 17 operators run livestock inside the WSA. Table 6 gives livestock grazing use data for the WSA.

Most of the available forage for livestock inside the WSA is in the canyon bottoms and on adjoining side hills. The terrain is so rugged that cattle are limited to canyons where water is available.

Permittees often use roads and trails to distribute salt from vehicles. Horses are used to manage and herd livestock on and off the allotments. No water is hauled.

There is a single existing range improvement within the WSA, the partially developed Trough Spring. A range improvement is proposed to redevelop this spring with 1 mile of pipeline added on the east. This project is proposed to improve livestock distribution.

There are no wild horses or burros in this WSA.

**TABLE 6**
**Livestock Grazing Use Data**

| | Allotments | | | | |
|---|---|---|---|---|---|
| | Callao | Trout Creek | Overland Canyon | Ibapah | Ochre |
| Permittees | 5 | 5 | 2 | 6 | 2 |
| Period of Use | 4/1-9/30 | Yearlong | 10/1-4/30 | 5/1-12/31 | 11/1-4/30 |
| AUMs in Allotment | 2,242 | 15,877 | 2,656 | 2,887 | 1,472 |
| Percent of Allotment Area in WSA | 16 | 7 | 27 | 26 | 16 |
| Estimated Available Livestock Forage in WSA (AUMs) | 61 | 101 | 355 | 377 | 119 |
| Percent of Total (AUMs) | 3 | Less than 1 | 13 | 13 | 8 |

Sources: USDI, BLM, 1973 and 1982c.

## Visual Resources

The Deep Creek Mountains rise with outstanding visual prominence from the adjacent Great Salt Lake Desert. Mountain peaks extend up to 8,000 feet above the surrounding desert valleys.

Landforms at upper elevations (8,000 to over 12,000 feet) are characterized by steep canyons, sheer cliffs, high mountain meadows, and barren peaks. Vegetation dominates color contrasts with evergreens, desert shrubs, and high mountain grasses. Outcroppings of rock offer many forms and varieties of shape and color to the area. Numerous wildflowers offer color contrasts and variety to the landscape. Man's influences are noted in several ways, abandoned mining cabins, and mines. These characteristics combine to provide outstanding scenic quality. Scenic quality classes are rated as A (high quality) and high B (moderate).

Landforms at mid-elevations (7,000 to 8,000 feet) are characterized by smoother slopes and lower canyons, but still have dominant rock outcroppings with some cliffs. Vegetation cover is quite thick and creates contrasts of rugged character. The pinyon-juniper stands located among other desert shrubs and grasses offer a variety of vegetative contrast to the WSA. Scenic classes range from B (moderate) to C (average).

Landforms at lower elevations (5,700 to 7,000 feet) are characterized by rolling hills, shallow

canyons, or winding washes. Hills are covered by sparse vegetation or are barren. Light soils affect the visual coloring of the areas, but still are heavily dominated by vegetation cover and occasional rock outcroppings. Mining scars are more visible because of the lack of visual screening. Roads are primitive and rugged. Class scenery in the foothills is typically rated as a common C.

A summary of the visual resource characteristics is found in Table 7. (Refer to Appendix 7 for a description of BLM's VRM rating system.)

**TABLE 7**

**Visual Resource Quality and Management Class**

| | Acres | | | Percent of WSA |
|---|---|---|---|---|
| | Juab County | Tooele County | Total | |
| Scenic Quality | | | | |
| Class A | 18,751 | 6,200 | 24,951 | 36 |
| Class B | 8,300 | 12,230 | 20,530 | 30 |
| Class C | 3,689 | 19,740 | 23,429 | 34 |
| Management Classes | | | | |
| Class I | 0 | 0 | 0 | 0 |
| Class II | 23,899 | 13,740 | 38,639 | 56 |
| Class III | 3,996 | 16,030 | 20,026 | 29 |
| Class IV | 1,845 | 8,400 | 10,245 | 15 |

Source: USDI, BLM, 1973 and 1982c.

## Cultural Resources

A sample survey of the southeastern quadrant of the Deep Creek Mountains WSA has identified 28 sites, of which 12 are inside the WSA. None of these sites are included or nominated for inclusion in the National Register of Historic Places. These sites covered a range of 8,500 years from the Paleo-Indian to the protohistoric Shoshoni. Based on this sample, site density was predicted to be fairly high. All prehistoric stages are expected to be represented. The amount of historic activity, including major trails, mining, and ranching, would indicate that there also are historic sites such as old corrals, mines, and cabins present in the area.

## Recreation

The quality of 15 recreational opportunities was evaluated for this WSA. All 15 activities are available in varying degrees. Seven opportunities were found to be above average to excellent in quality. These include backpacking, dayhiking, camping, nature study, photography, geologic sightseeing, and scenic vistas. The remaining eight opportunities are average or below average in quality.

The Deep Creek Mountain Range is the only mountain range in the interior of the Great Basin in Utah with an abundance of water. Six perennial streams on the eastern slopes of the range support fish populations of rainbow and cutthroat trout. Mule deer, bighorn sheep, mountain lion, antelope, grouse, chukar, and several other wildlife species are found on the mountain range and/or adjoining benchlands. The majority of the Deep Creek Mountains offers outstanding opportunities for nature-oriented types of recreation.

The Deep Creek Mountains' 12,000-foot peaks and perennial streams, in combination with 600 plant species and over 185 bird species, provide opportunities for wildlife observation and nature study. Big game hunting (antelope and deer), upland game hunting (grouse and chukar), fishing, backpacking, hiking, mountaineering, and camping are the most popular recreation activities in this area. There are approximately 3,500 hunter days, 1,500 fisherman days, and 3,000 backcountry (i.e., hiking and backpacking) visitor days annually attributed to recreation pursuits in the Deep Creek Range. An estimated 70 percent of this use (5,600 visitor days) is within the WSA. The hunting and fishing uses (5,000 visitor days) are considered to be associated with ORV access.

ORV use occurs along the foothills of the Deep Creek Mountains and in the canyons with existing access. Mining, range work, wildlife and recreation management, and various recreation pursuits require access by ORVs. Access to higher elevations is limited to a total of about 15 miles of short ways or jeep trails in several canyons. Here, the steep slopes and rugged terrain preclude extensive ORV use.

Approximately 52,738 acres are currently closed to ORV use except for about 15 miles of existing ways and jeep trails that are open for use. Approximately 16,172 acres are open to ORV use. In Granite and Trout Creek Canyons, ORV use is limited to existing ways and jeep trails from June to November, depending on soil conditions. ORV use is related primarily to providing access in connection with the visitor days of recreation use noted above.

Birch and Trout Creeks from their source to their junction are listed as Nationwide Rivers Inventory segments (USDI, National Park Service [NPS], 1982). Thus, they are eligible for study for addition to the Nationwide Wild and Scenic Rivers System. The inventory found that these segments possess excellent primitive recreation opportunities, unique geological features relating to ancient Lake Bonneville, a vertical granite

canyon, Utah cutthroat trout, and bristlecone pine. About 1.5 miles of Birch Creek and 5 miles of Trout Creek are within the WSA. Since they are inventory-listed segments, the BLM must, as part of its environmental review process, avoid or mitigate adverse impacts to these creeks and consult with the NPS before taking any action that could foreclose wild, scenic, or recreational river status (Council on Environmental Quality, 1980).

## Wilderness Values

### SIZE

The WSA contains approximately 68,910 acres of public land. There are approximately 30,740 acres in Juab County and approximately 38,170 acres in Tooele County. The WSA extends about 28 miles in a north-south direction and varies in width from less than 1 to nearly 7 miles in an east-west direction. It is one of the larger WSAs in the West Desert area of Utah.

### NATURALNESS

There are two patented mining claims (private in-holdings) in the northern end of the WSA, totaling 216 acres, that have significant surface disturbances. There are numerous mine shafts, tailings, and old mine structures in Reilly, Pole, Chokeberry, North Pass, Sevy, Sheep, and Willow Spring Canyons, Bagley Gulch, and Blood Mountain. The mine workings and adjoining road systems and ways comprise approximately 1,000 acres of surface disturbance inside the WSA. There is a total of about 15 miles of ways and jeep trails extending for short distances up numerous canyons in from the boundary of the WSA.

The remainder of the WSA is in essentially a natural condition. There are no sights or sounds outside the WSA that would impact naturalness. Overall, the entire 68,910 acres appear to meet the *Wilderness Act* criteria for naturalness.

### SOLITUDE

Opportunities for recreationists to find solitude (i.e., a secluded spot away from others) within the WSA are influenced by size, topography, vegetation, and the absence of distracting sights and sounds.

The WSA ranges in elevation from approximately 5,000 feet to over 12,000 feet on the higher peaks. The many streams draining to the east have cut narrow, steep-sided canyons. There is a wide variety of vegetation, from pinyon-juniper at the lower elevations to Douglas fir, white fir, and bristlecone pine on the higher ridges. Both topographic and vegetation screening are excellent, and one could easily find seclusion from others in approximately 87 percent of the WSA. Opportunities for solitude in the central portion of the WSA are considered outstanding. Juniper-grassland, comprising approximately 6,546 acres of the WSA, is located along the benchlands or adjacent to the northern boundary, and provides little opportunity for solitude. Opportunities for solitude in these areas are less than outstanding.

The Deep Creek Mountains WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range which includes the Deep Creek Mountains WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the Deep Creek Mountains WSA but are supersonic in portions of this area. Military flights are occasional offsite intrusions (sights and sounds) that detract from, but generally do not eliminate, the overall opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

A wide variety of recreational opportunities were identified during the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980). These included hiking/backpacking, horseback riding, fishing, hunting, nature study, and sightseeing. The availability of water greatly enhances the hiking/backpacking and horseback riding activities and allows the recreationist to spend extended periods of time in this mountain range. Hunting is primarily for deer, mountain lion, and chukar partridge. Huntable populations of antelope and grouse also exist, but numbers are relatively small and probably attract few hunters. Fishing would probably be a supplemental activity engaged in by hikers and campers. There is a variety of nature study opportunities available. Existing possibilities include both biological and botanical observation and specimen collecting. The variety and

number of these opportunities allow for recreational experiences of very high quality. Approximately 6,546 acres of the WSA (the open slopes and sagebrush flats at the lower elevations) fail to offer outstanding opportunities for primitive recreation. The remainder of the WSA meets the requirements for primitive recreation set by the *Wilderness Act*.

### SPECIAL FEATURES

Special features include Utah cutthroat trout, the giant stonefly, grapefern, several archaeological sites, and bristlecone pine. Two streams in the Deep Creek Mountains are known to have a pure strain of the Utah cutthroat trout (*Salmo clarki Utah*). These trout are a remnant of the trout that once inhabited Lake Bonneville, which covered a large portion of western Utah. This species is considered sensitive and has been proposed for listing as an endangered species. The giant stonefly is found in most of the streams of the Deep Creek Mountains. Athough abundant in streams of the Pacific Slope, the stonefly is quite uncommon to the State of Utah.

The grapefern was discovered growing above the 10,000-foot level in Indian Farm Creek Canyon in 1944. This original discovery has not been duplicated. Normally found in the northern part of the United States, it is unusual to find the grapefern this far south.

Twelve archaeological sites were found in the WSA during an inventory in 1976 and 1977. The sites are mostly open lithic and rockshelter sites and indicate semipermanent occupancy by the Archaic Sevier and Paiute-Shoshone cultures.

Three stands of bristlecone pine have been found in the WSA, but the approximate ages of these trees have not yet been determined.

## Land Use Plans and Controls

The WSA is BLM-administered public land except for five State sections and 256 acres of private land in-holdings.

Current BLM planning documents for the Deep Creek Mountains area include the Tooele Planning Area MFP (USDI, BLM, 1984c) and the West Desert Planning Area MFP (USDI, BLM, 1973) (which will be superseded by the House Range RMP scheduled for completion in 1986). Wilderness is not addressed in the West Desert MFP. Wilderness is addressed in the Tooele MFP, wherein approximately 21,860 acres in the Tooele County portion of the WSA are recommended as suitable for wilderness designation.

The *Tooele County Master Plan* (Mountain Area Planners, 1972) does not specifically address wilderness. Land use in Tooele County is generally discussed throughout the Master Plan as wise multiple and cooperative uses. The Master Plan states:

> "The major part of unincorporated land in Tooele County is shown on the Master Plan Maps as multiple-use areas. It is proposed that these lands be subject to conditional use permits for all uses; that primary uses allowed be forestry, stock grazing, mining, and recreational activities in appropriate areas; that emphasis of management practices be placed on conservation and wise use of natural resources, to permit and encourage improvements in soils stability, plant cover, water quantity and quality, and scenic beauty."

Juab County does not have a current master plan but has nearly completed a plan that does not specifically address wilderness. The county generally prefers multiple use, the concept being that open spaces be used for many purposes on public lands (Fawcett, 1985).

## Socioeconomics

The Deep Creek Mountains WSA is located in Juab and Tooele Counties, Utah. Socioeconomic events relative to the WSA are shared by both counties, although most mineral activity is within Tooele County.

### DEMOGRAPHICS

Census figures for 1980 (U.S. Department of Commerce [USDC], Bureau of the Census, 1981) show a Tooele County population of 26,033 and a Juab County population of 5,530 (increases of 45.7 and 20.9 percent, respectively, since 1970). The population of Tooele County is heavily concentrated (about 85 percent) in Tooele Valley, or that northeastern corner of the county referred to as the Tooele-Grantsville Division. The remaining 15 percent of Tooele County's population is scattered throughout the county. Tooele (population 14,335) is the largest city in Tooele County. The community of Ibapah, in Tooele County, is 3 miles west of the WSA and has a population of about 75 people. Nephi (population 3,285) is the largest community in Juab County. The western half of Juab County is very sparsely settled. The community of Callao, in Juab County, is 4 to 6 miles east of the WSA and has a population of about 35 people. The Goshute Indian Reservation is located to the west of the WSA, with about 105

people in Utah and Nevada. Population centers within about 100 miles of the Deep Creek Mountains are to the east and include the Utah Wasatch Front communities of Salt Lake City, Ogden, Provo, and Orem, with a combined population of approximately 1,155,000.

## EMPLOYMENT

Table 8 shows nonfarm employment by source for Tooele County. The five most contributing sources of employment in Tooele County for the fourth quarter of 1982 were: (1) government, 61.28 percent; (2) manufacturing, 10.09 percent; (3) trade, 8.77 percent; (4) mining, 8.15 percent; and (5) services 6.28 percent.

**TABLE 8**
**1982 Nonfarm Employment**
**Tooele County, Utah**

| Industrial Sector | Tooele County 1982 | 1981 | Change in Percent |
|---|---|---|---|
| Civilian Labor Force | 9,247 | 9,033 | 2.4 |
| Employed | 8,300 | 8,500 | -2.4 |
| Unemployed | 947 | 533 | 77.7 |
| Percent of Labor Force | 10.2 | 5.9 | |
| Percent of Labor Force Seasonally Adjusted | 11.0 | 6.3 | |
| Total Nonagricultural Jobs | 10,163 | 10,432 | -2.6 |
| Mining | 828 | 1,084 | -23.6 |
| Contract Construction | 170 | 174 | -2.3 |
| Manufacturing | 1,025 | 1,095 | -6.4 |
| Durable Goods | 103 | 112 | -8.0 |
| Nondurable Goods | 922 | 983 | -6.2 |
| Trans., Commercial, Public Utilities | 221 | 215 | 2.8 |
| Trade | 891 | 886 | 0.6 |
| Wholesale Trade | 21 | 22 | -4.5 |
| Retail Trade | 870 | 864 | 0.7 |
| Fin., Ins., & Real Estate | 162 | 158 | 2.5 |
| Service | 638 | 610 | 4.6 |
| Government | 6,228 | 6,210 | 0.3 |
| Federal Government | 5,146 | 5,158 | -0.2 |
| State Government | 58 | 56 | 3.6 |
| Local Government | 1,024 | 996 | 2.8 |

Source: Utah Department of Employment Security, 1982b.

The high government figure results primarily from civilian employees at military installations in the county. Farm employment represents a very small percentage (less than 2 percent) of the county employment and income (University of Utah, Bureau of Economic and Business Research, 1979). Mining employment in the county has been declining in recent years.

The government (Federal, State, and local) and trade sectors are the most important in terms of employment in the Juab County economy. Farm employment makes up about 14 percent of the total employment in Juab County. Table 9 presents 1982 nonfarm employment figures for the county.

**TABLE 9**
**1982 Nonfarm Employment Figures**
**Juab County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 91 | 5.6 |
| Construction | 112 | 7.0 |
| Manufacturing | 313 | 19.5 |
| Transport, Communication, and Public Utilities | 39 | 2.4 |
| Trade | 385 | 23.9 |
| Finance, Insurance, and Real Estate | 40 | 2.5 |
| Services | 199 | 12.4 |
| Total Federal, State, and Local Government | 427 | 26.6 |
| Total | 1,606 | 100.0 |

Source: Utah Department of Employment Security, 1982b.

## INCOME AND REVENUES

Table 10 shows representative income for nonfarm activities in Tooele County. Table 11 shows the same for Juab County.

Economic-related activities in the WSA include mineral exploration; mineral, livestock, and woodland production; and recreation. Table 12 summarizes local income (sales) and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 10**
**1981 Nonfarm Income and Employment**
**Tooele County, Utah**

| Industrial Sector | Number of Firms | Total Employment | Total Wages | Average Monthly Wages | Percent of Total Wage Revenue |
|---|---|---|---|---|---|
| Total Nonagriculture | 379 | 10,240 | 175,360,374 | 1,427 | 100 |
| Mining | 8 | 1,000 | 28,000,720 | 2,333 | 15.96 |
| Construction | 50 | 192 | 3,341,247 | 1,446 | 1.91 |
| Manufacturing | 17 | 1,121 | 24,017,519 | 1,786 | 13.70 |
| Transportation, Communications and Public Utilities | 22 | 234 | 4,497,570 | 1,605 | 2.56 |
| Trade | 108 | 910 | 7,059,425 | 646 | 4.02 |
| Finance, Insurance, Real Estate | 26 | 159 | 1,625,581 | 851 | 0.92 |
| Services | 85 | 564 | 4,684,540 | 692 | 2.67 |
| Government | 63 | 6,060 | 102,133,772 | 1,404 | 58.24 |
| Federal | | 5,003 | | | |
| State | | 60 | | | |
| Local | | 997 | | | |

Source: Utah Department of Employment Security, 1982b.

**TABLE 11**
**1982 Personal Income and Earnings**
**Juab County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 19,779 | 37.5 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 483 | -15.1 |
| Nonfarm | 19,296 | 39.7 |
| Private | 13,814 | 30.7 |
| Agricultural Service and Other | 88 | 1.1 |
| Mining | 1,150 | (D) |
| Construction | 2,727 | (D) |
| Manufacturing | 3,308 | -35.3 |
| Transportation and Public Utilities | 810 | 10.7 |
| Wholesale Trade | 1,023 | 77.3 |
| Retail Trade | 2,676 | 15.6 |
| Finance, Insurance and Real Estate | 648 | 90.0 |
| Services | 1,384 | 17.0 |
| Government | 5,482 | 68.9 |

Sources: USDC, Bureau of Economic Analysis, 1984.

(D) Not shown to avoid disclosure of confidential information or for items $50,000 or less. Data are included in totals.

**TABLE 12**
**Income (Sales) and Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $154,500 |
| Mining Claim Assessment | Less than $ 5,100 | None |
| Livestock Grazing | $20,260 | $1,418 |
| Woodland Products | $3,500[2] | $140 |
| Recreational Use | Less than $32,800 | 0 |
| Total | Less than $61,660 | Up to $156,058 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

[2] This figure represents the value of the products to those who harvest them and may not be directly related to sales.

The WSA has 51 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy.

As much as $1 million worth of mineral commodities have been produced from the WSA (not at current rates). This production has generated an unknown number of work years of employment, which includes local employment. Recent mineral production in and around the WSA has been sporadic and current economic values are unknown.

Seventeen livestock operators have a total grazing privilege of 1,013 AUMs within the WSA. If all this forage were utilized, it would account for an estimated $20,260 of livestock sales, including $5,065 of ranchers' returns to labor and investment.

Some woodland products are harvested from the WSA. The harvests have been small and are insignificant to the local economy.

The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for the Deep Creek Mountains WSA is estimated as about 8,000 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contributes to the local economy of Tooele and Juab Counties.

The WSA generates Federal revenues from several sources (refer to Table 12). Mineral leases in the WSA cover approximately 51,500 acres. At up to $3 an acre, lease rental fees generate up to $154,500 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, revenues generated from grazing in the WSA, are unknown; however, the permittees in the WSA can use up to 1,013 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $1,418 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

The present forest harvesting has only a small effect on the local economy. Future demands for firewood caused by increasing costs of other fuels may increase interest in harvesting the products. Lack of access will continue to be a limiting factor. Annual woodland product harvest includes 20 cords of fuelwood (with a total value of $1,500), a few fenceposts, and about 500 lbs. of pine nuts (with a total value of $1,250). High production of pine nuts occurs about every 7 to 10 years, resulting in an occasional harvest of up to 7,000 lbs. At $2.50 per lb., this occasional harvest generates sales of $17,500 which, if averaged over a 10-year period, would equal about $1,750 annually. These harvests from the WSA generate an estimated $140 of Federal revenues annually.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for all Alternatives

1. The alternatives would be carried out as noted in the Description of the Alternatives section of this document.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from: (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas and locatable mineral exploration and development. Note, however, that the WSA is thought to have low potential for oil, gas, and geothermal resources and the disturbance projected for them is unlikely to occur. Disturbances related to locatable mineral development, on the other hand, are likely to occur. The following is a worst-case analysis based on the assumption that all identified energy and mineral potentials would be developed sometime in the future and would result in the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; barite, beryllium, copper, gold and silver, lead and zinc, mercury, molybdenum, and tungsten, 860 acres; and uranium, up to 20 acres. This disturbance (worst-case analysis) would total 1,046 acres. It is assumed that the disturbance generally would be scattered across the lower elevations and in some of the canyons of the WSA on or in proximity to existing mining claims and leases. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed as a PSD Class II area. Disturbance of 1,046 acres would result in temporary increases in fugitive dust emissions; however, large dust occurrences of originating in the WSA would be unlikely due to the dispersed nature of the activities, the terrain separation, and the underground type of mining. Most likely impacts would result from vehicle travel during the summer on roads to and from the mineral developments in the WSA.

### GEOLOGY

No overall impacts to geology are expected because surface disturbances associated with locatable minerals, oil and gas, and geothermal exploration and development activities would be localized in nature and would probably not exceed 1,046 acres. Underground mine shafts and tunnels, exploratory drilling, or construction of other wells would not affect the geologic structure of the area.

### SOILS

It is estimated that up to 1,046 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur in areas with slight (0.6) erosion class (worst-case analysis) and that erosion condition would increase to the moderate (1.3) class, soil loss on the 1,046 acres would increase from 628 cubic yards/year to 1,360 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. Minor soil loss would also temporarily occur from the 500-acre planned chaining and seeding, but after vegetation is established, soils would be stabilized.

Therefore, under this alternative, it is estimated that maximum annual soil loss in the WSA would increase by approximately 732 cubic yards (1 percent) over the current annual soil loss of 41,654 cubic yards per year. This is a small increase, and the effects would likely be imperceptible.

## VEGETATION

The following species of sensitive plants are found within or near the WSA: *Penstemon nanus, Sclerocactus pubispinus*, and *Hackelia ibapaensis*. Before authorizing surface-disturbing activities (1,046 acres of potential mineral-related and 500 acres of chaining) the BLM would conduct site-specific clearances of the potentially disturbed areas. If these species could be affected, the BLM would initiate informal consultation with the FWS as required by BLM policy. The BLM would request a biological opinion if appropriate (refer to Appendix 4). Because necessary measures would be taken to protect these plants, it can be reasonably concluded that the viability of populations of sensitive plant species would be preserved under the No Action Alternative.

This alternative would not result in any major change in any vegetation type.

## WATER RESOURCES

Mineral exploration and development in the area would generally be confined at or near the surface or with widely spaced wells and would not significantly change ground water quantity or quality.

There are eight perennial streams totaling 21 miles within the WSA. The water quality of these streams is good. Mean water flow is approximately 6.04 cubic feet per second. There are five springs with good water quality. Average water flow varies between 20 and 40 gpm.

Surface disturbance related to mineral development on up to 1,046 acres could decrease water quality in the lower reaches of three streams (Toms, Indian Farm, and Trout Creeks). All other creeks are unlikely to be affected. Opportunities for watershed developments could occur but, other than the short intake pipelines for two hydroelectric projects and the developments proposed for livestock and wildlife benefits, none are now planned for the WSA. The 500-acre planned chaining would temporarily add to water sedimentation; however, after about 2 years when new vegetation is established on the chaining, it would benefit the watershed through increased water absorption.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

The potential for up to 10 million barrels of oil and up to 60 billion cubic feet of natural gas (in-place) exists within the WSA. About 3 million barrels of oil and 18 billion cubic feet of gas could be recoverable. Existing leases (39,800 acres) could be developed with stipulations issued at the time of leasing. New leases could be issued and oil and gas resources could be explored and developed, subject to Category 1 (standard stipulations) on about 46,912 acres. Approximately 14,997 acres would continue to be closed to leasing and, therefore, closed to exploration and development. Exploration and development would also be highly restricted on 7,001 acres that would be managed as Category 3 (no surface occupancy). Due to the small size of these possible oil and gas deposits, production is not expected under this alternative.

*Geothermal*

The low gradient geothermal resource could be recovered under this alternative. As much as 6 acres could be disturbed from exploration and development. However, because of low temperatures and distance from potential urban uses, there is no market for this resource in the area and it is unlikely that it would be developed.

### Locatable Minerals

Locatable mineral development would continue to occur within the WSA. The entire WSA would remain open to mining claim location and development. Within the WSA, the potential deposit of more than 1,000 tons of beryllium oxide, 50,000 to 1 million tons of copper, more than 500 tons of gold, 50,000 to 1 million tons of lead/zinc, more than 10,000 tons of silver, less than 500 tons of tungsten, and undetermined quantities of barite, mercury, and molybdenum could be recovered. The WSA and the surrounding area have significant potential value for locatable minerals, some of which are on the strategic and critical minerals list (Federal Emergency Management Agency, 1983). Considering past and present mineral production, this area is likely to have continued activity associated with several producing mines and mining districts.

### Salable Minerals

Although the opportunity would exist under this alternative to recover salable minerals, it is

unlikely they would ever be developed commercially due to the remoteness of the area and the multitude of gravel, rock, and other such deposits outside the WSA.

### WILDLIFE

Under this alternative, all wildlife developments currently planned (including five springs, one reservoir, 160 stream improvements and 80 bank stabilization structures, and vegetation manipulation on 500 acres), could be carried out (without wilderness considerations) increasing the availability of water, forage, and aquatic habitat in the area for wildlife use. Although not currently planned, chemical treatment of waters could occur to manage Utah cutthroat trout populations in the WSA.

Disturbance of as much as 1,046 acres (less than 2 percent of the WSA), including crucial deer winter and summer ranges, crucial golden eagle range, and yearlong Rocky Mountain bighorn sheep range through mineral and energy exploration and development would disrupt wildlife. Mobile animals would leave the area of disturbance for the lifetime of these activities. Less mobile wildlife would either perish or coexist with these disturbances at smaller and less viable population levels.

Peregrine falcon and bald eagle (both endangered) and golden eagle and Utah cutthroat trout (both sensitive) occur in the WSA. Prior to any surface-disturbing activity, a Section 7 consultation would be initiated with the FWS as required under the provisions of the Endangered Species Act. Appropriate measures to protect these birds and fish would be implemented. It can, therefore, be reasonably concluded that there would be no impact to these species.

### FOREST RESOURCES

Woodland products could continue to be harvested under this alternative. About the same level of use as now exists would continue because the remoteness of the Deep Creek Mountains and availability of similar resources closer to most population centers would tend to limit increased utilization.

### LIVESTOCK

Domestic livestock grazing would continue as authorized in the Tooele and Topaz MFPs (and the subsequent House Range RMP). There would be no changes in or effect on the current livestock use and management under this alternative. Additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. The only current proposals are to redevelop Trough Spring, adding 1 mile of pipeline. No substantial changes in livestock management techniques are expected.

### VISUAL RESOURCES

Under this alternative, visual quality in the WSA would be somewhat protected by limitations placed on some potential surface-disturbing activities (i.e., 21,998 acres would continue to be closed to future leasing or surface occupancy; about 52,738 acres in the WSA would continue to be closed to ORV activity except for use of existing roads and ways; and 38,639 acres would be managed under VRM Class II where development is restricted to that which would blend with the landscape character). The acres are not additive, but overlap in places.

However, under this alternative, 1,046 acres of mineral-related exploration and development activities are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. Even after rehabilitation, some permanent localized degradation would be expected. Roads, vehicular ways, mine workings, and drill pads would not be excepted to be located throughout the area due to terrain limitations at the high elevations; therefore, visual quality impacts would be expected to be confined primarily to the canyons and low elevations on the perimeter of the WSA.

### CULTURAL RESOURCES

A worst-case analysis indicates that disturbance of 1,046 acres by mineral exploration and development under this alternative could destroy cultural sites. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would lessen impacts. There are no National Register sites in the WSA, but the potential to find future sites appears to be relatively high. The overall effect on cultural resources could be significant although mitigating measures would be taken prior to surface-disturbing activities. Vandalism of sites (not currently a problem) would be expected to increase with construction of roads for mineral exploration and in proportion to the general population increase.

### RECREATION

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, mineral-related

exploration and development are possible on 1,046 acres. Since roads, vehicular ways, and drill pads generally would be located in canyons and low elevations of the WSA, the primitive recreational opportunities could be reduced or lost in these areas. Primitive recreation opportunities would be protected to some degree on the 21,998 acres closed to leasing or surface occupancy; however, disturbance from locatable mineral activities still could occur.

The wild and scenic values of Birch and Trout Creeks, which are Nationwide River Inventory segments, would be considered on a case-by-case basis in consultation with NPS but would not receive added protection.

The future increase in recreational use of the WSA is unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 8,000 current visitor days per year to 11,920 at the end of 20 years. Assuming that the 2-percent increase would be uniform among all recreation uses in the WSA, primitive recreational use would increase from the estimated current use of 3,000 visitor days per year to about 4,530 per year over the next 20 years. Likewise, recreational activities utilizing vehicular access (hunting, fishing, etc.) would increase from 5,000 visitor days per year to 7,390.

Although the Deep Creek Mountains WSA is closed to vehicle use, except for 16,172 acres and 15 miles of ways and jeep trails, access would increase as new ways or roads are created for mineral development. The quality and extent of primitive recreation opportunities would decline in portions of the WSA as vehicular access increased; on the other hand, recreation activities associated with vehicle access would benefit.

### WILDERNESS VALUES

Under this alternative, wilderness characteristics in the WSA would be somewhat protected by limitations placed on potential surface-disturbing activities, as described in the preceding discussion of visual impacts.

However, under this alternative, 1,046 acres of mineral exploration and development are possible. The related activities and surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation particularly in the canyons and lower elevations of the WSA. Some impacts to wilderness value in the high elevation part of the WSA could occur if locatable minerals are found there. The potential for locatable mineral development and related disturbance is high in this WSA. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

This alternative would generally be consistent with the *Tooele County Master Plan* and the Juab County concept of multiple use, which zone the Deep Creek Mountains for range, forest, and multiple use. This alternative is based on implementation of the current BLM West Desert MFP and is, therefore, in conformance with it. Nondesignation would not be in conformance with the Tooele MFP and would constitute an amendment to that plan. The No Action Alternative would be consistent with State of Utah plans and policies that emphasize economic returns.

### SOCIOECONOMICS

Under this alternative, no substantial changes are expected in existing overall patterns and trends of population, employment, and local income distributions. The Utah Office of the State Planning Coordinator (1980) projects that the government sectors of these counties would not expand greatly beyond their current size, while the retail trade, manufacturing, and services sectors would continue to grow at a stable rate through the year 2000. If substantial increases in mineral development were to occur in the Deep Creek Mountains, this could reverse the current downward trend in mining employment and income in Tooele County. It also would notably increase socioeconomic effects in the small communities, Ibapah and Callao, near the WSA.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development within the WSA is high for locatable minerals and low for leasable minerals (refer to the Mineral and Energy Resources section for a description of mineral and development potentials). Mineral activity associated with potential new and existing claims could have a beneficial impact on the local economy.

There would be no livestock-related economic losses because the existing grazing use (1,013

AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce $20,260 annually in livestock sales.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Because recreational use in the area is estimated to increase 3,920 visitor days per year over the next 20 years, and overall recreation-related expenditures average $4.10 per visitor day (only a portion of which contributes to the local economy), future recreation-related expenditures of $16,072 attributable to the WSA would likely be significant to the local economy, to the extent that these monies are spent in the small communities near the WSA. The portion of recreation-related expenditures in large communities along the Wasatch Front by visitors prior to traveling to the WSA would have no significant effect on the economy.

Federal and State revenues would not be reduced by this alternative. Currently in the WSA there are 39,800 acres under lease that could bring in $119,400 annually into the Federal Treasury. There are 14,113 acres in the WSA open to lease that are currently not leased. If leased they would bring up to $42,339 additional Federal lease fee revenues per year. Half of these monies would be allocated to the State, a portion of which could reach the local economy. Collection of livestock grazing fees ($1.40 per year) would continue. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (68,910 Acres)

The major changes that could occur in the 68,910-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 15 miles of existing vehicular ways and jeep trails in the WSA would be closed to vehicular use except for approvals by BLM as noted in the Description of the Alternatives section. "Cherry-stemmed" and border roads would remain open. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims located prior to wilderness designation would eventually be explored and developed, causing an estimated 880 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities, and that oil and gas leases would not be renewed or future leasing of oil, gas, or geothermal resources would not be allowed. Appendix 10 lists mineral-related surface disturbance assumptions and estimates for the WSA.

Because potentially disturbed areas would be smaller than under the No Action Alternative (880 vs. 1,046 acres), the impacts from development and surface disturbance on air quality, geology, soils, vegetation, water, forest, and cultural resources would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources. Other effects on these resources due to changes in management are discussed below.

### VEGETATION

The potential for inadvertent disturbance of *Penstemon nanus, Sclerocactus pubispinus*, and *Hackelia ibapaensis*, all sensitive plant species, would be less under this alternative than with the No Action Alternative. Because necessary measures would be taken to protect threatened, endangered, or sensitive plant species on the potentially disturbed areas, as described for the No Action Alternative, populations of these species would be preserved.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

*Oil and Gas*

Although 39,800 acres of the WSA are under oil and gas lease (11,700 acres are under lease application), no exploration or development of oil and gas are occurring at the present time.

Existing leases could be developed subject to the stipulations issued at the time of leasing. All leases are post-FLPMA and, therefore, development could occur only if it would not impair wilderness suitability. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be reissued.

Exploration for and development of a potential resource of an estimated 3 million barrels of oil and less than 18 billion cubic feet of natural gas considered to be recoverable, would be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded

that this alternative would not result in any significant loss of potential oil and gas recovery.

*Geothermal*

The low gradient geothermal resource could not be recovered under this alternative. However, there is no market for the resources in this vicinity, and it is unlikely that it would ever be produced.

### Locatable Minerals

Approximately 1,420 acres are covered by 51 mining claims within the WSA. Development work, extraction, and patenting would be allowed on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to wilderness values. If minerals are located prior to wilderness designation, it is estimated that up to 1,046 acres could be disturbed due to exploration and development of the locatable mineral resources. The WSA has high potential for many locatable minerals. For mining actions, a plan of operations would be required to include all access, functions, work, and facilities in connection with prospecting, development, extraction, and processing of mineral deposits whether these activities are on or off a mining claim. Stipulations issued by BLM to prevent unnecessary or undue degradation to wilderness character may be more stringent than would have been applied had the area not been designated wilderness. Although development of existing valid claims would be possible, the cost of development would be greater.

The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to wilderness designation. In that case, the potential for recovery of the estimated qualities of base and precious metals as shown in Table 5 would be foregone. After designation, all other lands (including any claims not determined valid) would be closed to mineral location, prospecting, and development (USDI, BLM, 1981a).

Because the WSA has high potential for certain locatable minerals, because production of these metals has occurred or is currently occurring, and because other economic considerations (currently unfavorable) may become more favorable in the future, it is likely that development would occur in the future on existing claims. This alternative would result in a significant impact to locatable mineral resources on a local, regional, and national level only to the extent that existing mining claims do not cover the mineralized areas. However, it is probable that existing claims cover much of the recoverable minerals in the WSA.

### Salable Minerals

Under this alternative the opportunity to recover salable deposits within the WSA would be foregone. However, it is unlikely they would ever be produced commercially, even without wilderness designation, due to the remoteness of the area and the multitude of deposits outside the WSA.

## WILDLIFE

Under this alternative, many of the wildlife developments currently planned (including five springs, 160 stream improvements, and 80 bank stabilizing structures) could be constructed as long as they are designed to meet wilderness protection criteria (refer to Appendix 1). The springs would increase the availability of water for wildlife use and stream developments would improve the fisheries habitat. Although not currently planned, chemical treatment of waters to better manage Utah cutthroat trout populations probably would be allowable. The 500-acre vegetation manipulation and the reservoir would be foregone under this alternative along with the improvement in mule deer habitat that would have resulted. No reduction in current mule deer use of the area is expected to result from preclusion of these proposed developments.

This alternative would benefit wildlife, including endangered and sensitive species, through reduction of potential surface disturbance due to mineral development. In particular deer, antelope, trout, chukar, and bighorn sheep could benefit. However, disturbance of an estimated 880 acres that could still occur from mineral exploration and development would cause mobile animals to leave the area of disturbance and less mobile animals to either perish or coexist at smaller and less viable population levels. Appropriate measures would be taken to protect peregrine falcon and bald eagle (both endangered) and Utah cutthroat trout and golden eagle (both sensitive) prior to any surface-disturbing activity, and it can be assumed that no impact would occur to these species. It is unlikely that increased recreational use of the area due to wilderness designation would be large enough to negatively affect these species.

## FOREST RESOURCES

The potential to commercially utilize forest products in the WSA would be foregone under this alternative, although nonmechanized harvesting of pine nuts could continue. There are 25,000 board feet of commercial timber presently accessible for harvest. The remaining 474 board feet are in very steep terrain. An additional 10,000

acres of scattered conifers are of low grade. Existing pinyon-juniper and commercial timber products are unlikely to be utilized even without wilderness designation because of their inaccessibility, scattered location, and distance from market. Therefore, minimal impact is expected.

### LIVESTOCK

This alternative would not affect the level of livestock use (currently 1,013 AUMs for cattle and sheep in this WSA). Trough Spring, partially developed, could be redeveloped as planned and would continue to be maintained as in the past based on practical necessity and reasonableness. Vehicle access for livestock permittees would be regulated to infrequent trips into the WSA; this could necessitate changes in livestock management and supervision as they are currently practiced in this WSA. The impact could be an inconvenience to affected permittees.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through ORV closure of 15 miles of existing ways, and through closure of the entire area to future mineral leasing and mining claim location.

Under this alternative the possible mineral-related surface disturbance would be reduced from 1,046 acres with No Action to 880 acres, associated with development on 1,420 acres of mining claims.

Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality could be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. Even though the potential for development of mining claims is high, because existing claims are concentrated generally near the edges of the WSA, visual quality would probably not be reduced in the WSA as a whole.

### CULTURAL RESOURCES

Due to reduction of potential surface disturbance (mineral-related disturbance would be reduced from 1,046 with the No Action Alternative to 880 acres and the proposed 500-acre chaining would be foregone), wilderness designation would assist in maintaining cultural resource values in the WSA. The probability of finding additional sites in the WSA is high and there is potential for increased vandalism to cultural resources due to increased recreational use of the WSA resulting from wilderness designation. Also, protection afforded by reduction of surface-disturbing activities under wilderness management would outweigh any potential vandalism problems caused by increased recreation. The overall impact would be positive.

### RECREATION

Under this alternative, possible mineral-related surface disturbance would be an estimated 880 acres and primitive recreational opportunities would be recognized and managed. If new roads are constructed for development of valid mining claims, the quality of primitive recreational opportunities would be reduced. Because the potential for locatable mineral production is high, the quality of the primitive recreational experience would likely not be preserved through substantial parts of the Tooele County portion of the WSA, even with wilderness designation. Access to private inholdings also would be a negatively influencing factor.

Wilderness designation would protect Birch and Trout Creeks, which are Nationwide River Inventory Segments (USDI, NPS, 1982) with potential for study and addition to the National Wild and Scenic Rivers System.

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity likely following wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to regulate destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. As primitive recreation use increased, commercial outfitting operations based on primitive recreational activities might be initiated, although none now exist in the WSA.

Except on existing roads and ways, no vehicular use is occurring or is likely to occur due to topographic restraints. Closure of 15 miles of ways to motor vehicles would make recreation access to some areas of the WSA more difficult and could discourage some of the fishing (currently 1,500

visitor days) and hunting (currently 3,500 visitor days) use of the area.

### WILDERNESS VALUES

Wilderness designation and subsequent application of the "Wilderness Management Policy" would contribute to the preservation of the identified wilderness characteristics of size and naturalness on all 68,910 acres and outstanding opportunities for solitude and primitive, unconfined recreation on 62,364 acres(6,546 acres do not meet the standard). The special features (cultural resource sites and various biological values) would also be protected. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

Potential surface disturbance would be reduced under this alternative. The 500-acre proposed chaining would not be done. No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 1,046 to 880 acres for development of valid mining claims.

Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there were no reasonable alternatives. Mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive, unconfined recreation on the affected areas. Locatable mineral claims could be considered valid existing rights depending on the result of a validity determination. The likelihood of their full development will depend on future economic conditions. However, the number of existing mining claims, the history of previous mineral production, and the high favorability of additional deposits all lead to the conclusion that BLM would have difficulty preserving the wilderness characteristics in much of the northern portion (Tooele County) of the Deep Creek Mountains. Wilderness values would not be reduced in the area as a whole because it is unlikely that roads to valid mining claims would need to be constructed throughout the WSA. Although the potential for mineral production is high, most existing claims are near the edges of the WSA. Loss of wilderness values under the All Wilderness Alternative would be less than under the No Action Alternative.

### LAND USE PLANS AND CONTROLS

The *Tooele County Master Plan* recommends multiple use of all public lands; Juab County has similar views. This alternative is partially consistent with the Counties' multiple-use concept, since many resource uses would continue, although under more restrictive conditions. This alternative would conflict with the Counties' multiple-use concept in the area of minerals because restrictive conditions would be placed on mineral development (i.e., the area would be closed to future mineral location and lease and existing leases would not be reissued after expiration). Because State lands within the WSA would be exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

The Tooele MFP does address wilderness and recommends 21,998 acres in the Tooele County portion of the WSA as wilderness. An amendment would be necessary because this alternative would result in more acreage designated as wilderness than is recommended in the MFP. The existing West Desert MFP does not provide for wilderness designation. The forthcoming House Range RMP will acknowledge the wilderness study process but will not address wilderness designation. Designation would be an amendment to the applicable BLM land use plan.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution. Because of restrictions placed on the use of resources under wilderness designation, there would be some loss in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 12), as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for locatable mineral development in the WSA is high (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could limit future economic growth potential by an unknown amount, as compared to the No Action Alternative. Potential mineral-related local income could be reduced significantly by wilderness designation to the degree that existing claims (or new valid claims filed prior to wilderness designation) do not cover the recoverable minerals. Any local income related to assessment of potential future

mining claims would be lost. A potential opportunity for the local economy to expand would be limited because future prospecting and new claim location and development would be precluded.

The loss of 39,800 acres to existing oil and gas leases would cause an eventual loss of up to $119,400 per year of current lease fees to the Federal Treasury. There would also be a potential loss of $42,339 annually in Federal revenues from the 14,113 acres that could be leased without designation.

Livestock use and ranchers' income would continue essentially as at present with $20,260 of livestock sales attributed to the AUMs within the Deep Creek Mountains WSA.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use by an unknown amount (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and likely would not be significant to the local economy. If commercial outfitters began to use the WSA as a result of wilderness designation, this could provide an economic benefit to individual local businesses.

Motorized recreational use of the WSA associated with hunting and fishing is currently estimated at 5,000 visitor days per year; this use could decrease somewhat due to ORV closures. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

Wilderness designation would eliminate most woodland product harvesting with related local values and Federal revenues. Present harvest from the WSA annually generates about $3,500 in woodland product values and $140 in Federal revenues.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases.

## Partial Wilderness Alternative (50,984 Acres) (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 50,984-acre area designated as wilderness, and the 17,926-acre nondesignated area are discussed in the Description of Alternatives section.

It is assumed that, in the designated area, existing mining claims (620 acres) would eventually be explored and developed, causing an estimated 355 acres of surface disturbance. It is also assumed that existing oil and gas leases (23,490 acres) in the designated portion would expire before production of commercial quantities, and that leases would not be renewed or future leasing allowed.

It is assumed that, within the nondesignated area, 525 acres would be disturbed sometime in the future due to locatable mineral exploration and development and 42 acres would be disturbed due to oil and gas exploration and development.

Overall, 922 acres of mineral-related surface disturbance are predicted to occur within the WSA, 124 acres less than under the No Action Alternative and 42 acres more than with the All Wilderness Alternative. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

The 500 acres of planned chaining to improve wildlife habitat are within the portion of the WSA that would be designated wilderness. This project would not be allowed under this alternative. The proposed Trough Spring redevelopment would be in the area not designated wilderness.

Restrictions on management and development methods within the WSA would result in essentially the same impacts to air quality, geology, soils, vegetation, water, forest, and cultural resources, as described for the All Wilderness Alternative. The following analysis describes only measurable differences between alternatives.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

*Oil and Gas*

The 50,984-acre area that would be designated wilderness would be placed in Category 4 status with no new leasing. In this area approximately 23,490 acres are under post-FLPMA leases that could be developed only if such development would not impair wilderness suitability. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be reissued.

It cannot be determined how much of the existing potential resource of 3 million barrels of oil and 18 billion cubic feet of natural gas estimated to be

recoverable is in the area that would be designated as wilderness under this alternative. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 2.2 million barrels of oil and 13 billion cubic feet of natural gas could be foregone. This would allow recovery of 0.8 million more barrels of oil and 5 billion more cubic feet of natural gas than with the All Wilderness Alternative. Due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of leasable minerals.

*Geothermal*

The low gradient geothermal resource could be recovered on the 17,926-acre nondesignated area, although there is no market for the resource and it is unlikely it would be developed.

**Locatable Minerals**

Approximately 620 acres of existing mining claims are within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines but with consideration given to wilderness values. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981a).

It cannot be determined how much of the estimated quantities of base and precious metals as shown in Table 5 occur within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits were not included in mining claims filed before designation (worst-case analysis), the potential recovery foregone would be as shown in Table 13. That table also shows the amounts estimated recoverable in the part of the WSA not designated wilderness. It should be noted that the estimates of minerals foregone are probably overstated (i.e., too high) for some minerals because the deposits are most likely concentrated in the known mineralized locations, many of which would not be in the area designated as wilderness.

Because most of these metals are being or have been recovered within the WSA in the past, it is likely that exploration or development would continue in the future. This alternative is intended to minimize conflicts with the most likely mineral development opportunities and it is less likely to conflict with mining exploration and extraction than the All Wilderness Alternative.

TABLE 13

**Available and Foregone Mineral Resources**
**Partial Wilderness Alternative**

| Mineral | Quantities Foregone[1] | Quantities Available[2] | Total |
|---|---|---|---|
| Barite | Unknown | Unknown | Undetermined |
| Beryllium | 740 tons | 260 tons | More than 1,000 tons of oxide |
| Copper | 37,000 to 740,000 tons | 13,000 to 260,000 tons | 50,000 to 1 million tons |
| Gold | 370 tons | 130 tons | More than 500 tons |
| Lead/Zinc | 37,000 to 740,000 tons | 13,000 to 260,000 tons | 50,000 to 1 million tons |
| Mercury | Unknown | Unknown | Undetermined |
| Molybdenum | Unknown | Unknown | Undetermined |
| Silver | 7,400 tons | 2,600 tons | More than 10,000 tons |
| Tungsten | 370 tons | 130 tons | Less than 500 tons |
| Uranium | 370 tons | 130 tons | Less than 500 tons of oxide |

Source: Derived from Tables 4 and 5.

[1] Estimated within designated area (74 percent).

[2] Estimated outside of designated area (26 percent).

**WILDLIFE**

Under this alternative the proposed 500-acre chaining would probably be foregone as with the All Wilderness Alternative. The proposed reservoir and other planned actions could be completed, however, which would improve wildlife habitat. The 42 more acres that could be disturbed under this alternative than under the All Wilderness Alternative are only 0.06 percent of the WSA, and would be insignificant.

**LIVESTOCK**

The effect from designation of 50,984 acres of the WSA as wilderness on domestic livestock grazing would be essentially the same as the All Wilderness Alternative. Of the 1,013 AUMs allocated in the WSA, approximately 679 would be within the designated portion of the WSA and 334 would be in the nondesignated portion. The Trough Spring development would be within the nondesignated area and could be maintained and reconstructed without wilderness concerns. Development of future roads or other livestock management facilities for use with 679 AUMs in the designated portion could be restricted to preserve wilderness values. Of the 15 miles of existing vehicular ways, about 10 miles are within the area that would be designated. As compared to the All Wilderness

Alternative, this would reduce but not eliminate the possibility of inconvenience to permittees who presently use these ways.

### VISUAL RESOURCES

Visual resources on the 50,984-acre wilderness would be managed in accordance with VRM Class I standards that generally allow for only natural ecological change. The remaining 17,926 acres that would not be designated would be managed as Class III on 8,726 acres and Class IV on 9,200 acres. Because total surface disturbance in the WSA is estimated at 922 acres with the Partial Wilderness Alternative, as compared to 1,046 acres with the No Action Alternative and 880 acres with the All Wilderness Alternative, the potential for impact on visual resources would be less than under the No Action and slightly more than under the All Wilderness Alternatives. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality within the designated area could be degraded on up to 355 acres and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. Although the potential for locatable mineral development is high, most mining claims are located near the perimeter of the WSA; therefore, VRM Class I objectives would be met within most of the designated portion of the WSA. In the 17,926-acre area not designated, visual resources would greatly be affected due to increased mineral activities, access roads, and management under Class III and IV VRM objectives which allow for greater landscape alterations than the Class I objectives of the designated part of the WSA.

### RECREATION

Impacts on recreational values and opportunities for the 50,984-acre area that would be designated wilderness would be basically as described in the All Wilderness Alternative. The differences would be as follows: of the 15 miles of existing ways and jeep trails, 5 miles are in the area that would not be designated. Also, due to the 17,926-acre undesignated area, the potential for new road construction for purposes of mineral exploration and development would be greater under this alternative. This would allow for better recreational access into the Deep Creek Mountains for such purposes as hunting and fishing, although it would also reduce the area's opportunities for primitive recreation.

The Wild and Scenic River Inventory values (USDI, NPS, 1982) of Birch and Trout Creeks would be protected under wilderness designation.

### WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on 50,984 acres that would be designated wilderness. Wilderness designation would contribute to the preservation of the area's wilderness characteristics. As compared to the No Action Alternative, this Partial Wilderness Alternative would reduce the potential for surface-disturbing activities that could impair wilderness values, through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure of 10 miles of ways and jeep trails, and through closure of the area to future mineral leasing and location. Size, naturalness, outstanding opportunities for solitude and primitive recreation (all 50,984 acres meet the standards), and many of the special features would be preserved. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA. Although recreational use could increase (refer to Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration and development on up to 355 acres within the designated portion. However, many of the conflicts due to existing mining claims and mineral resources would be eliminated.

In the 17,926-acre area that would not be designated, there could be as much as an estimated 567 acres of disturbance from mineral and energy exploration and development activities. Those activities would degrade wilderness values (naturalness on 17,926 acres and outstanding opportunities for solitude and recreation on 11,380 acres [6,546 acres do not meet the standard]) from the commencement of activities through rehabilitation.

The potential for loss of wilderness values would be less under this alternative than under the No Action Alternative but greater than under the All Wilderness Alternative.

### LAND USE PLANS AND CONTROLS

The relationship of this alternative to the affected land use plans would be the same as with the All Wilderness Alternative except that the nondesignated portion would be consistent with the Tooele and Juab Counties' concept of multiple use as well as in conformance with the BLM Tooele MFP which does not recommend the entire WSA as wilderness.

### SOCIOECONOMICS

Partial wilderness designation (50,984 acres) in the Deep Creek Mountains WSA is not expected to result in any changes in existing patterns and trends of population, employment, and local income distributions. The only perceptible difference in this alternative and the All Wilderness Alternative would be in mineral-related sales and revenues. This alternative would avoid all but one of the existing mines (except for two mines on private land in-holdings) and many of the claims. Therefore, under this alternative designation would be less likely to conflict with the recovery of mineral resources within the WSA. As with the All Wilderness Alternative, precluding exploration and development of all presently unclaimed areas within the designated portion of the WSA would not alter existing economic conditions. However, this alternative could prevent full mineral development in the future by withdrawal of the designated part of the WSA from future leasing and claim location. For analysis, it is assumed that up to 76 percent of the mineral development potentially available with the No Action Alternative could be foregone with this Partial Wilderness Alternative, although this percentage is probably overstated. The loss of 23,490 acres to existing oil and gas leases would cause a loss of up to $70,470 per year of current lease fees to the Federal Treasury. This is 16,310 acres and $48,930 per year less of a loss than what would occur under the All Wilderness Alternative. There would also be a potential loss of $42,339 annually in Federal revenues from the 14,113 acres that, without designation, could be leased in the future.

Overall, the Partial Wilderness Alternative would achieve most of the local socioeconomic benefits of the No Action Alternative, but would result in up to an estimated $112,809 annual loss in existing and potential future Federal revenues from oil and gas leases foregone.

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# Fish Springs WSA

# FISH SPRINGS WSA
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# FISH SPRINGS WSA
# (UT-050-127)

## INTRODUCTION

### General Description of the Area

The Fish Springs Wilderness Study Area (WSA) consists of 52,500 acres of public land in northwestern Juab County, Utah. The nearest town is Callao, approximately 10 road miles to the west. The major feature of the WSA is the Fish Springs Range, where elevations rise abruptly from 5,000 feet in the foothills to 8,500 feet in the highest part. The WSA is approximately 16 miles long and 6 miles wide at its widest point.

Vegetation in the WSA includes a variety of shrubs and grasses at the lower elevations and scattered pinyon and juniper at the higher elevations. There is some scattered white fir in isolated locations.

Climate is typical of the Great Basin, with limited precipitation, low relative humidity, high frequency of clear skies, and large annual and daily ranges in temperature. Precipitation in the WSA varies from 12 to 20 inches annually, depending on elevation. Temperatures range between -14 degrees Farenheit (F) to 105 degrees F depending on season and elevation.

### Specific Issues Identified in Scoping

General issues pertaining to more than Fish Springs WSA are discussed in Volume I. Issues and concerns specific to Fish Springs WSA identified in public scoping meetings (USDI, BLM, 1984c) are responded to below.

1. *Comment:* The oil and gas potential of the WSA is ranked low and the locatable mineral potential is ranked low to moderate by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be high for oil and gas and locatable minerals. This information should be considered in the Draft Environmental Impact Statement (EIS).

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

2. *Comment:* Would wilderness designation prohibit critical wildlife habitat (summering/wintering range) modification and management techniques (e.g., water development and chemical treatment) and the Fish Springs bighorn sheep transplant proposed by the Utah Division of Wildlife Resources (UDWR)?

   *Response:* The impact that wilderness designation and nondesignation would have on wildlife and its management in the Fish Springs WSA is discussed in the Description of the Alternatives, Wildlife sections of this document. In summary, there is no Federally designated critical habitat in the unit. Currently only a water guzzler for improving antelope habitat is proposed. This would be allowable in a wilderness area if designed to meet wilderness protection criteria (refer to Appendix 1). Designating the area as wilderness would not prohibit reintroducing desert bighorn sheep into the WSA.

3. *Comment:* The EIS should analyze potential conflicts with bighorn sheep transplants because of the need for artificial guzzlers if the transplant is done.

   *Response:* The effect that wilderness designation and nondesignation would would have on desert bighorn sheep and their management is discussed in the Description of the Alternatives, Wildlife sections of this document. No artificial water guzzlers have been proposed for bighorn sheep, nor has any need been identified.

STATEWIDE
POCKET MAP
WSA
NO. 4
SEE VOL. I

# DESCRIPTION OF THE ALTERNATIVES

## Alternatives Considered and Eliminated from Detailed Study

During scoping it was suggested that an alternative excluding lower parts of the Fish Springs WSA be analyzed to reduce conflict with livestock use areas. The partial alternative previously described by BLM accomplishes this objective; therefore, another partial alternative was not included for detailed study.

## Alternatives Analyzed

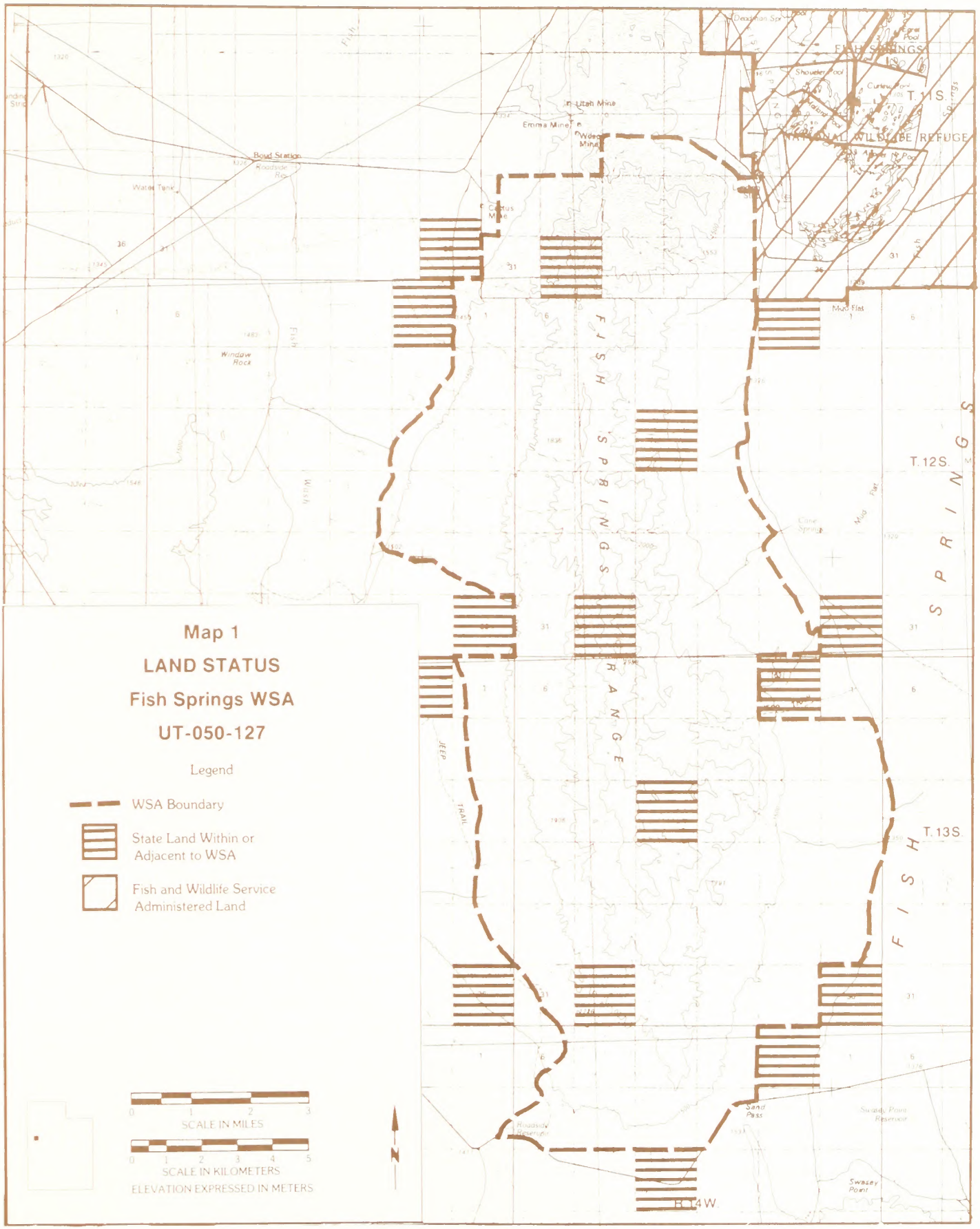
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (52,500 acres); and (3) Partial Wilderness (33,840 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 52,500-acre Fish Springs WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the West Desert Planning Area Management Framework Plan (USDI, BLM, 1973b) and the House Range Resource Area Resource Management Plan (RMP) scheduled for completion in 1986. The State land within the WSA (refer to Map 1) has not been identified in the MFP for special Federal acquisition through exchange or purchase. State lands are analyzed as remaining under State ownership.

The following are specific actions that would take place under this alternative:

- All 52,500 acres would remain open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on existing mining claims (2,706 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809) without consideration given to wilderness values. Existing oil and gas leases (52,500 acres), existing geothermal leases (1,600 acres), and new leases could be developed as Category 2 (standard and special stipulations). Sand and gravel deposits, located on alluvial fans in the bench areas near the margins of the WSA, could be developed under this alternative.
- The present domestic livestock grazing use in the WSA would continue as authorized in the MFP (2,508 Animal Unit Months [AUMs]). Existing rangeland developments (one developed spring and one developed well) would continue to be used and maintained as in the past. New rangeland developments (approximately 5 miles of pipeline and 1.5 miles of fence are planned to aid in distribution of livestock) could be implemented without wilderness considerations.
- Developments for wildlife, water resources, etc. (one guzzler is currently planned) would be allowed without concern for wilderness values if in conformance with the West Desert Planning Area MFP. Approximately 2,700 acres on the west side of the WSA would continue to be managed under the West Desert Habitat Management Plan (HMP) (USDI, BLM, 1980b) to preserve wildlife values. A proposed antelope guzzler is called for in this plan. UWDR has identified 34,850 acres of potential range in the WSA as suitable for the reintroduction of desert bighorn sheep, which would be allowable under this alternative.
- The 52,500 acres, including the 10 miles of ways, would remain open for vehicular use in accordance with the West Desert Planning Area MFP. New access could be developed. The WSA would remain undesignated for off-road vehicle (ORV) use until completion of the House Range Resource Area RMP in 1986 when ORV categories would be established.
- The entire WSA would continue to be open to woodland product harvest. There is no harvest of forest products at the present time, nor is any planned.
- The area would continue to be managed under Visual Resource Management (VRM) Class II (34,650 acres) and Class IV (17,850 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit


Map 1
LAND STATUS
Fish Springs WSA
UT-050-127
Legend
WSA Boundary
State Land Within or Adjacent to WSA
Fish and Wildlife Service Administered Land
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
T. 11S.
T. 12S.
T. 13S.
FISH SPRINGS
FISH SPRINGS RANGE
NATIONAL WILDLIFE REFUGE
Mud Flat
Sand Pass
Swasey Point
Reservoir
Window Rock
Water Tank
Emma Mine
Wasp Mine
JEEP TRAIL

provided they are carried on in an environmentally sound manner.

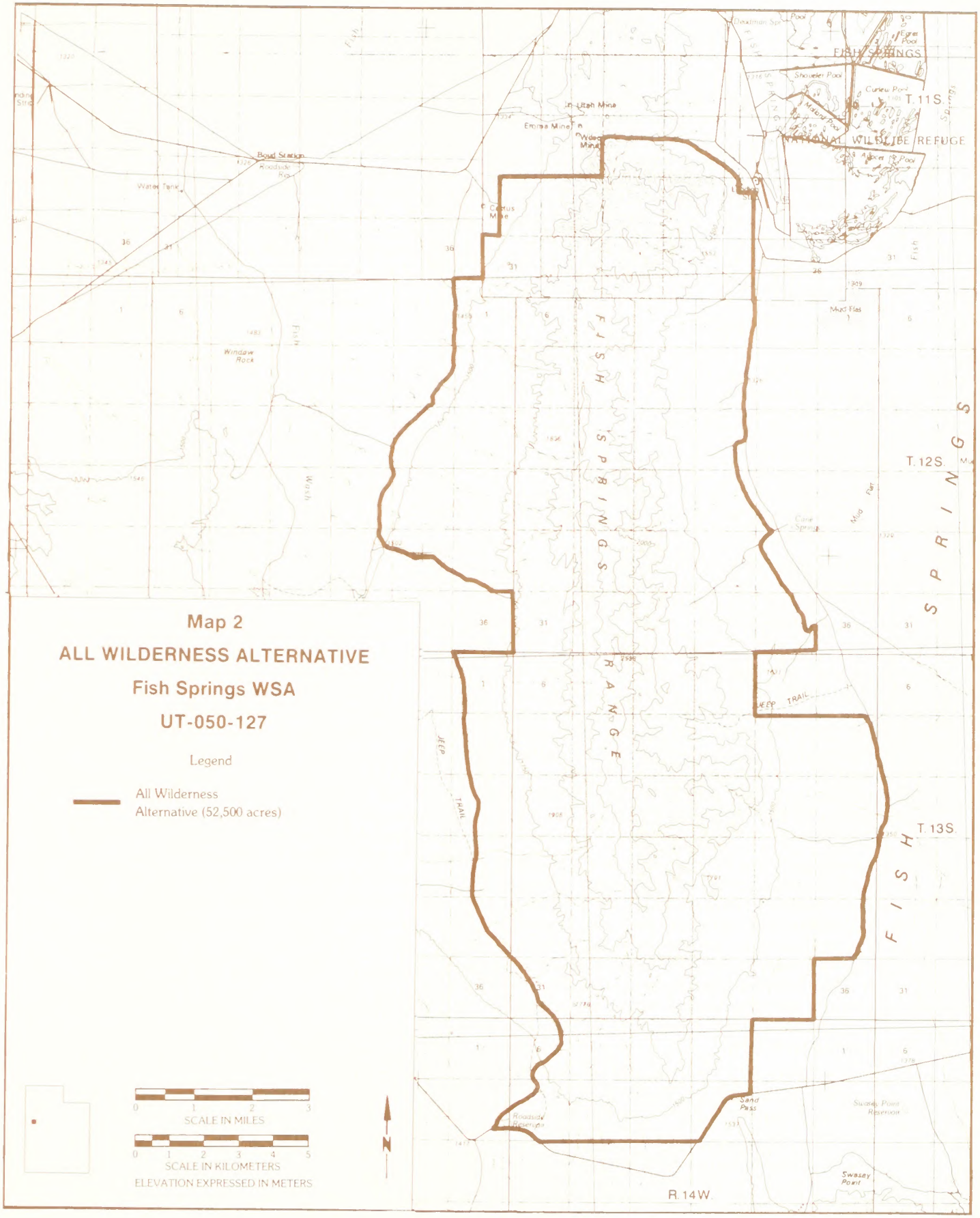
- Motorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 52,500 acres of the Fish Springs WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981b) to preserve its wilderness character. Upon designation, acquisition of five sections of State land (3,200 acres) within the WSA (refer to Map 1) would be likely and would be authorized by purchase or exchange (refer to Volume I). Two of the ten State sections adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 52,500 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 2,706 acres of 131 existing mining claims that may be determined valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with wilderness as a consideration. Existing oil and gas leases involving the entire 52,500 acres would be phased out upon expiration unless a find of oil or gas resources in commercial quantities is shown. The 1,600 acres of geothermal leases located in the northeast corner of the WSA would also be phased out upon expiration unless a geothermal find in commercial quantities is shown. Use of the sand and gravel resource, which is currently minimal, would not be allowed under the All Wilderness Alternative.
- Present domestic livestock grazing would be allowed to continue as authorized in the West Desert Planning Area MFP. The 2,508 AUMs in the WSA would remain available to livestock as presently allotted. After designation, new rangeland developments (several pipeline and fence systems are proposed) would be allowed on a case-by-case basis, if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources, provided that wilderness protection standards are met (refer to Appendix 1). The one developed well and one developed spring in the WSA would continue to be used and maintained in the same manner as in the past based on practical necessity and reasonableness.
- New water resource facilities or watershed activities (not related to rangeland and/or wildlife management) would be allowed after designation only if compatible with wilderness values, if needed to correct imminent hazards to life and property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are presently planned other than one antelope guzzler.
- Wildlife transplants, developments, or habitat improvements would be allowed after designation if compatible with wilderness values (refer to Appendix 1). Projects would be considered for approval on a case-by-case basis. At this time, the only wildlife development planned in this WSA is an antelope guzzler which would be allowable as long as wilderness protection criteria are met (refer to Appendix 1). The UDWR has identified 34,850 acres as suitable habitat for a desert bighorn sheep transplant. Such a transplant would be allowable under this alternative.
- The entire 52,500-acre area would be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. About 10 miles of existing vehicular ways would not be available for vehicular use except as indicated above. About 8 miles of the WSA boundary follow existing gravel, dirt, and


Map 2
ALL WILDERNESS ALTERNATIVE
Fish Springs WSA
UT-050-127
Legend
All Wilderness
Alternative (52,500 acres)
FISH SPRINGS
NATIONAL WILDLIFE REFUGE
T. 11S.
T. 12S.
T. 13S.
R. 14W.
FISH SPRINGS RANGE
JEEP TRAIL
Boyd Station
Water Tank
Window Rock
Mud Flat
Sand Pass
Swasey Point
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N

paved roads that would remain open to vehicular travel.

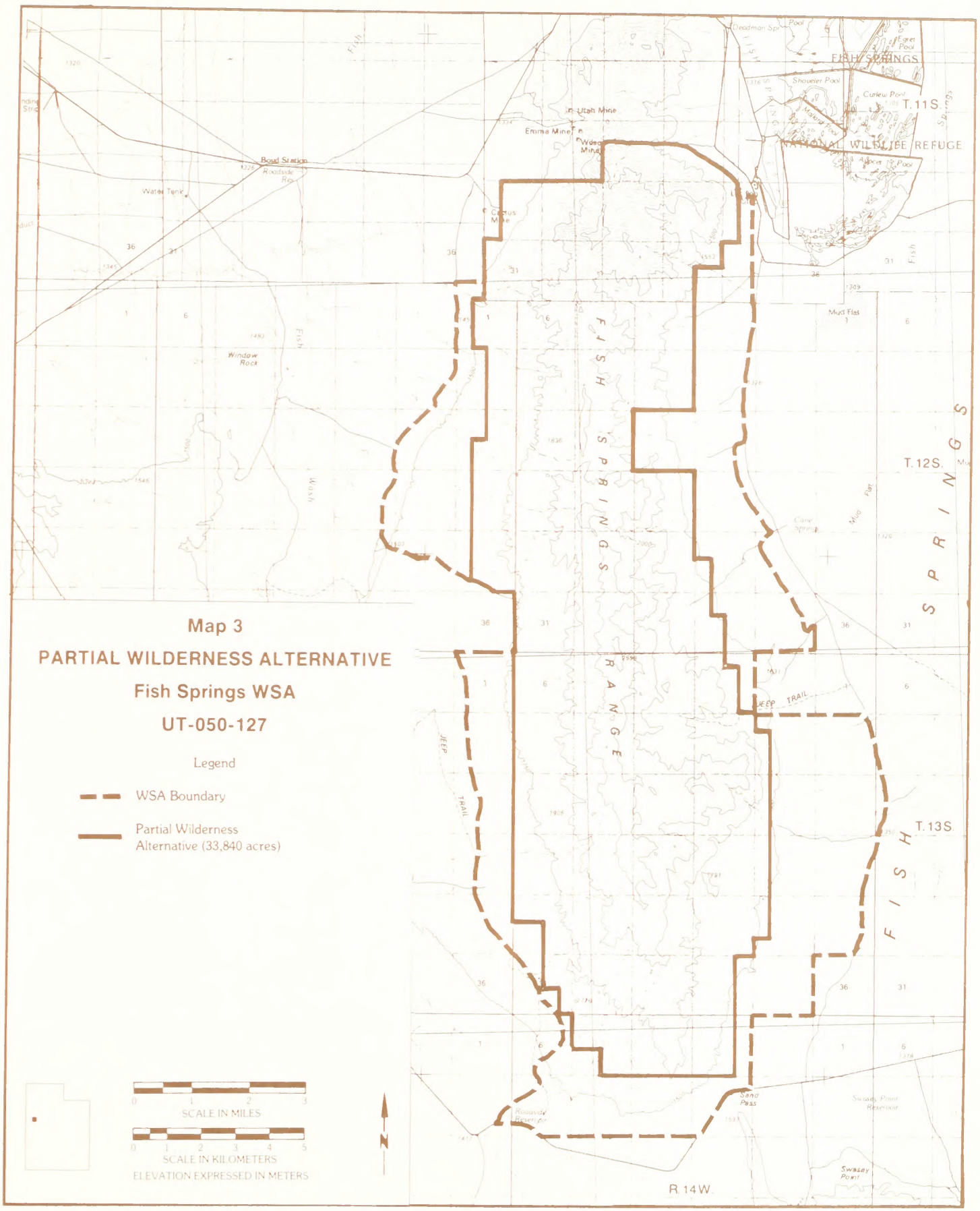
- A specific Wilderness Management Plan would be developed to govern use and protection of the 52,500-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. Due to the remote location of the WSA and scattered nature of the resource, there is no harvest of forest products at the present time, nor is any specifically planned.
- Visual resources would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that such controls would be accomplished by hand or aerial methods.
- Any activity for the purpose of gathering information about natural resources would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

## PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 33,840 acres of the Fish Springs WSA would be designated as wilderness (refer to Map 3.) The objective of this alternative is to analyze as wilderness that portion of the WSA with the most outstanding wilderness characteristics and exclude the low elevation portions of the WSA most used by livestock. The 33,840 acres analyzed as wilderness under this alternative include the steepest, most mountainous portion of the WSA. The 18,660-acre foothill fringe areas within the WSA but outside of that designated as wilderness would be managed in accordance with the West Desert Planning Area MFP as described for the No Action Alternative. The wilderness area would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative. This alternative would likely involve Federal acquisition of four sections of State land by purchase or exchange (refer to Volume I). One of the four State sections adjacent to the boundary of this alternative likely would be exchanged. Assumptions regarding analysis and impacts for State lands involved in this Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. The figures and acreages under this alternative are for Federal lands only.

A summary of specific actions follows:

- The 33,840-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on approximately 82 acres of existing mining claims, provided they are valid. Existing oil and gas leases, covering the entire 33,840 acres, would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown. Approximately 1,264 acres of geothermal leases located in the northeast corner of the wilderness area


Map 3
PARTIAL WILDERNESS ALTERNATIVE
Fish Springs WSA
UT-050-127
Legend
WSA Boundary
Partial Wilderness Alternative (33,840 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
FISH SPRINGS NATIONAL WILDLIFE REFUGE
FISH SPRINGS RANGE
T. 11S.
T. 12S.
T. 13S.
R. 14W.
Deadman Spring
Pool
Shoveler Pool
Curlew Pool
Mallard Pool
Avocet Pool
Emma Mine
Wedge Mine
Cactus Mine
Water Tank
Road Station
Roadside Rest
Window Rock
Mud Flat
Cane Spring
JEEP TRAIL
Sand Pass
Riddle Reservoir
Swasey Point Reservoir
Swasey Point

would also be phased out upon expiration unless a commercial find is shown. The 18,660 acres not designated wilderness would be open to future mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (approximately 2,624 acres) and future mining claims could occur if claims are valid. The area not designated would be managed as leasing Category 2 (standard and special stipulations). Development of existing (approximately 18,660 acres) and future oil and gas leases and existing (approximately 336 acres) and future geothermal leases could be developed without concern for wilderness values. Sand and gravel deposits in the WSA would not be included in the wilderness area under adoption of this alternative and could be developed.

- Domestic livestock grazing would continue to occur in the 33,840-acre wilderness area. The AUMs in the area would remain available to livestock as presently allotted. Few, if any, of the 2,508 AUMs are utilized in this portion of the WSA. New rangeland developments could be developed in the wilderness area if necessary for protection and management of the rangeland and/or wilderness resource provided that wilderness protection standards are met (refer to Appendix 1). Approximately 0.5 mile of fence and 0.5 mile of pipeline are proposed in this portion of the WSA. In the 18,660-acre nonwilderness area, grazing use would continue as authorized in the West Desert Planning Area MFP. Most, if not all, of the AUMs are utilized in this portion of the WSA. New rangeland developments could be developed in this area without concern for wilderness values. Approximately 4.5 miles of pipeline and 1 mile of fence are located in this portion of the WSA.
- In the 33,840-acre wilderness new water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed only if compatible with wilderness, if needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 18,660-acre area water resource facility developments would be allowed if in accordance with the MFP without concern for wilderness values. None are now proposed except for one antelope guzzler.
- In the 33,840-acre wilderness, wildlife transplants or habitat improvements would be allowed only if compatible with wilderness values. Approximately 90 percent of the bighorn sheep habitat is in this portion of the WSA, and the identified bighorn sheep transplant could occur under this alternative. In the remaining area, wildlife transplants or improvements would be allowed without concern for wilderness values. The planned antelope guzzler would be located in this portion of the WSA.
- The mountains that would comprise the wilderness area would be closed to ORV use. Approximately 2 miles of existing ways are located in the area that would be designated wilderness. The approximately 8 miles of ways located in the nondesignated portion of the WSA would continue to be available for vehicular use. The existing roads that border the WSA would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 33,840-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products in the wilderness area would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining area would be open to woodland harvest.
- Visual resources in the wilderness area would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining area would be managed as VRM Classes II and IV.

- Within the 33,840-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that measures would be carried out by hand or aerial methods. In the 18,660-acre nonwilderness area, measures of control would be taken without wilderness considerations.
- In the nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the wilderness area such activity would be allowed by permit but would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- In the nonwilderness area, motorized hunting would be allowed subject to applicable State and Federal laws and regulations. In the wilderness area, hunting would be allowed with the same laws and regulations, but use would be limited to nonmotorized means.
- In the nonwilderness area, control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the wilderness area, controls would be allowed under the same conditions, but poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 shows the main environmental consequences that would result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section briefly describes the resource values of the affected environment. Unless otherwise cited, information for this section was taken from the West Desert Planning Area, Unit Resource Analysis (USDI, BLM, 1973a) and other BLM technical reports and documents.

### Air Quality

The WSA is located in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act, as amended. This classification permits moderate air quality deterioration. The nearest PSD Class I area (less permissive to air quality deterioration) is Capitol Reef National Park, approximately 160 air miles to the southeast. Existing air quality is generally excellent throughout the year. The WSA is located near the center of the area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

### Geology

The Fish Springs Range is located in the Great Basin section of the Great Basin Physiographic Province. In general, this province is characterized by low rainfall, internal drainage, and short, north-south trending blockfaulted mountain ranges.

The Fish Springs Range exhibits all these characteristics in varying degrees. The range is over 15 miles in length. Elevations average 5,000 feet in the foothills and rise abruptly to 8,500 feet in the highest part of the range. The central portion of the range is the most rugged and is characterized by numerous craggy peaks, ledges, large basins, and steep slopes. The margin of the WSA is less rugged. The WSA is considered an excellent example of attenuation faulting, a geologic process of interest to geologists.

### Soils

There is considerable variation of soil types in the WSA depending on elevation, slope, and parent material. Generally, the mountain slopes are dry, dark-colored, cobbly loams while the lower elevations are alkaline, calcareous loams and loamy sand. There are no serious erosion condition problems in the WSA. The entire WSA is in a slight erosion condition class with an estimated average annual erosion rate of 0.6 cubic yards per acre. Erosion condition was determined using soil surface factors (refer to Glossary).

If soil loss is considered at 0.6 cubic yards per acre per year (USDI, BLM 1973a, and Leifeste,

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## FISH SPRINGS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (52,500 Acres) | Partial Wilderness Designation (33,840 Acres) (Proposed Action) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, 50,000 to 1 million tons of lead and zinc, and 500 tons of tungsten. Potential geothermal energy is also present. | Oil, gas, and geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. | Although likelihood is low, up to 2 million barrels of oil, 11 billion cubic feet of natural gas, 3.5 tons of beryllium, 17,500 to 350,000 tons of lead and zinc, and 175 tons of tungsten could be recovered. Some geothermal energy could also be developed. All of the existing mining claims are on the margins of the WSA and would be in the nondesignated area. |
| Wildlife | About 0.6 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. About 0.6 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat. |
| Livestock | Grazing of 2,508 AUMs and maintenance of existing developments would continue. Proposed new developments, consisting of 5 miles of pipeline and 1.5 miles of fence, could be constructed. | Grazing of 2,508 AUMs and maintenance of existing developments would continue. Little effect on grazing management is expected. Proposed new developments might be allowed if they would not impair wilderness values. | Effects would be about the same as for the All Wilderness Alternative. Of the proposed developments, 4.5 miles of pipeline and 1 mile of fence would be in the nondesignated portion and could be constructed. |
| Visual Resources | The quality of visual resources could be impaired on up to 296 acres. | Visual quality could be impaired on up to 90 acres. | Visual quality could be impaired on up to 184 acres, including 69 acres in the designated portion. About 98 percent of the Class A scenery would be within the designated portion and would be protected by the reduced potential for disturbance. |
| Recreation | ORV use would continue on 10 miles of ways at current low levels. Overall recreational use could increase from the present 50 visitor days per year to 75 over the next 20 years. Up to 296 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 10 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 8 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## FISH SPRINGS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (52,500 Acres) | Partial Wilderness Designation (33,840 Acres) (Proposed Action) |
| Wilderness Values | Wilderness values could be lost on up to 296 acres (0.6 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 90 acres (0.2 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 69 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on less than 1 percent of the 18,660 acres not designated. Overall, wilderness values could be lost on 0.35 percent of the WSA. However, all of the areas meeting the standards for naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive recreation would be in the designated area and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with Juab County's concept of multiple use, State of Utah plans and policies, and the BLM Topaz MFP. | This alternative would conflict with Juab County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM Topaz MFP. | Consistency would be about the same as with the All Wilderness Alternative, except that the portion not designated would be consistent with Juab County's concept of multiple use. |
| Socio-economics | Annual local sales of less than $63,465 and Federal revenues of up to $167,411 would continue. An additional $54,000 to $203,600 per year in Federal revenues could be derived from leasing of presently unleased areas. | Annual local sales of less than $63,465 and Federal revenues of up to $3,511 would continue, but Federal revenues of up to $367,500 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $236,880. |

1978), the total annual soil loss now occurring in the WSA would be 31,500 cubic yards.

## Vegetation

Vegetation in the WSA is typical of the region with a variety of shrubs and grasses at the lower elevations and scattered pinyon and juniper at the higher elevations. There is some scattered white fir in isolated locations. Existing vegetation types are summarized in Table 2.

The WSA is in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are listed on Table 3. PNV is the vegetation type that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

There have been no surveys for threatened, endangered, or sensitive plant species in this WSA. According to Welsh (1979) and herbarium records, no threatened, endangered, or sensitive plant species occur within or near the WSA boundaries. Due to the scarcity of water, there is no riparian vegetation within the WSA.

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Utah juniper-sagebrush | 17,640 | 34 |
| Shadscale-horsebrush | 17,325 | 33 |
| Sagebrush | 10,238 | 20 |
| Shadscale-rabbitbrush | 3,832 | 7 |
| Pickleweed | 2,310 | 4 |
| Saltgrass | 1,155 | 2 |

Source: USDI, BLM, 1973a.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 12,500 | 24 |
| Saltbush-greasewood | 40,000 | 76 |

Source: USDI, Geological Survey, 1978.

## Water Resources

There are no known perennial streams in the WSA, although there are several large drainages in the WSA that can have intermittent flows during occasional wet periods. There is one spring (considered unsuitable for human consumption) and one well. Both are used by cattle.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

The potential for mineral resources in this WSA is moderate. Except for the geothermal and lead/zinc resources, which received favorability ratings of f3, all mineral resources within the area were assigned ratings of f2 or less. The mineral and energy resource rating summary is given in Table 4.

**TABLE 4**
**Mineral and Energy Resource Rating Summary**

| | Rating | | |
|---|---|---|---|
| Resource | Favorability[1] | Certainty[2] | Estimated Resource |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f2 | c1 | Less than 500 tons of uranium oxide |
| Coal | f1 | c4 | None |
| Geothermal | f3 | c2 | Moderate temperature resource |
| Hydropower | f1 | c4 | None |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f3 | c1 | 50,000 to 1,000,000 tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

An overall importance rating (OIR) of 3+ was assigned to the Fish Springs WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number

that reflects an overall assessment of the resource importance of the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, and tungsten that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

## LEASABLE MINERALS

There are no known occurrences of leasable minerals in the WSA, nor are there any active drilling or exploration activities for leasable minerals.

### Oil and Gas

Although oil and gas seismic surveys have taken place nearby, the geologic history of the WSA indicates that large structural traps for oil and gas are unlikely to occur. However, small traps may exist in random locations. The overall favorability for oil and gas deposits in the WSA is considered f2/c1. There are less than 10 million barrels of oil (up to 3 million are considered recoverable) and less than 60 billion cubic feet of gas (up to 18 billion cubic feet are considered recoverable) in the WSA. Approximately 3,900 acres (7 percent) of the WSA are covered by pre-FLPMA oil and gas leases. The remaining area (approximately 48,600 acres) has post-FLPMA oil and gas leases.

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981b). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

The entire 52,500 acres of the WSA are in Category 2 (standard and special stipulations) for oil and gas leasing.

### Geothermal

The favorability of geothermal resources occurring in portions of the WSA is f3/c2. This rating is based on geologic inference and has yet to be confirmed by actual drilling. There are approximately 1,600 acres of pre-FLMPA geothermal leases in the northeast corner of the WSA.

## LOCATABLE MINERALS

At present, there are no known commercially producible deposits of tungsten, lead, beryllium, or zinc. However, the geologic potential for any of these minerals is rated as f2/c2 or f3/c1. (Refer to Table 4 for estimated quantities.) The geologic potential for uranium is considered low. Due to the lack of data, geologic potential at this time must be based on factors such as surface geology, mineral belt locations, structure, and lithology.

There are 131 mining claims totaling approximately 2,706 acres for various locatable minerals in the WSA. All claims are on the margins of the WSA.

## SALABLE MINERALS

Sand and gravel deposits occur on alluvial fans. Due to low demand and nearby large deposits, use of the deposits in the WSA is expected to be minimal in the foreseeable future.

## Wildlife

The Fish Springs WSA provides habitat for a variety of animal species. There are 54 species of mammals, 123 species of birds, 14 species of reptiles, and one amphibian species that inhabit the area at different times of the year. Although a great diversity exists, no one species can be described as abundant.

There are two endangered (bald eagle and peregrine falcon) and one sensitive (golden eagle) species that inhabit the WSA. Although there are no Federally designated critical habitats in the WSA, the entire WSA is considered crucial yearlong habitat for golden eagle.

There are approximately 22,400 acres of yearlong range for mule deer and approximately 817 acres of crucial deer summer range. There are approximately 20 deer in the WSA. There are approximately 33,322 acres of yearlong range for pronghorn antelope, with approximately 20 antelope in the WSA. UDWR has identified approximately 34,850 acres of potential range for the reintroduction of the desert bighorn sheep. No bighorn sheep are known to occur in the WSA.

Approximately 2,700 acres in the WSA are managed under the West Desert HMP. The purpose of this HMP is to manage habitat for pronghorn antelope, chukar partridge, mule deer, and raptors. This plan calls for the construction of one antelope guzzler within the WSA. There are no existing or proposed vegetation manipulation projects within the WSA boundary.

## Forest Resources

There are approximately 10,500 acres of scattered stands of pinyon and juniper trees in the WSA. The total estimated volume is 27,000 cords of firewood and 6,000 juniper posts. However, demand is low, there is no access to the products, and the trees are in scattered locations. Therefore, it is unlikely that there will be any future demand for forest products in the WSA.

## Livestock and Wild Horses/Burros

Because of the rugged terrain, livestock use is restricted to the benchlands on the sides of the Fish Springs Range. Existing range improvements consist of one developed well and one developed spring. No areas within the WSA have been identified for vegetation manipulation to benefit livestock. At least 5 miles of pipeline, as well as 1.5 miles of fence, have been proposed within the WSA to help distribute livestock. Permittees use existing ways for managing livestock.

Portions of two allotments used by four permittees for both cattle and sheep are permitted for an estimated 2,508 AUMs in the WSA. This represents 44 percent of the AUMs for the allotments involved. Refer to Table 5 for specific allotment information.

There is no wild horse or burro use in this WSA.

**TABLE 5**

**Livestock Grazing Use Data**

| | West Fish Springs Allotment Cattle & Sheep | East Fish Springs Allotment Cattle & Sheep |
|---|---|---|
| No. of Permittees | 3 | 1 |
| Period of Use | 11/2-5/8 | 4/15-11/30 |
| Percent of Allotment in WSA | 35 | 51 |
| Estimate of Available Livestock Forage in WSA (AUMs) | 1,409 | 1,099 |
| AUMs in Allotment | 3,808 | 1,862 |
| Percent of Allotment AUMs in WSA | 37 | 59 |

Source: USDI, BLM, 1973a.

## Visual Resources

Visual quality in the WSA varies considerably. The main part of the Fish Springs Range has strong visual character due to the steep rugged peaks and variety in color from differing vegetation and rocks. The lower benchlands have little variety in landform, color, or vegetation.

Portions of the WSA are visible from two secondary recreation travel routes on the north and south sides.

The BLM Visual Resource Evaluation System (refer to Appendix 7) rated the WSA's visual characteristics as shown in Table 6 (terms are defined in the Glossary).

**TABLE 6**

**Visual Resource Quality and Management Class**

| Element | Acres | Percent of WSA |
|---|---|---|
| Scenic Quality | | |
| Class A | 34,650 | 66 |
| Class B | 0 | 0 |
| Class C | 17,850 | 34 |
| Management Class | | |
| Class I | 0 | 0 |
| Class II | 34,650 | 66 |
| Class III | 0 | 0 |
| Class IV | 17,850 | 34 |

Source: USDI, BLM, 1973a.

## Cultural Resources

There are no recorded prehistoric or historic sites in the WSA. However, the area has a long history of use by both prehistoric and recent inhabitants. This is particularly true around Fish Springs. There is a moderate potential for finding both surface and cave sites. There are no National Register sites or nominees in the WSA. However, any cave site would likely have National Register significance. The four Fish Springs cave sites just outside the northern boundary of the WSA were added to the National Register in February 1982. These were researched by the State of Utah.

## Recreation

The quality of 15 recreational opportunities was evaluated for this WSA. Thirteen recreational opportunities are present in varying degrees. Geological sightseeing, dayhiking, and backpacking are the activities most likely to draw visitors to the area. The area also has rock climbing potential and scenic vistas. Limiting factors for recreational opportunities include lack of water, rugged terrain, and limited wildlife.

Hiking and backpacking opportunities are somewhat restricted by the narrow width of the range. Day trips are possible by hiking up one side and down the other via several large drainages. Longer trips are possible only by hiking the crest of the range, some 16 miles long.

ORV use is very light and is limited to the 10 miles of existing ways in the lower benchlands for access, largely for hunting antelope and mule deer.

At present, total recreational use is estimated at under 50 visitor days use per year.

The WSA is currently undesignated for ORV use. It will, therefore, remain open to ORV use unless the House Range MFP (scheduled for completion in 1986) restricts ORV use in portions of the area.

## Wilderness Values

### SIZE

The WSA is approximately 52,500 acres in size. It is approximately 16 miles long and 6 miles wide at its widest point.

### NATURALNESS

The main portion of the Fish Springs Range is in a completely natural condition with no human intrusions. The lower slopes on the margin of the WSA have a variety of vehicular ways in various stages of rehabilitation by natural processes. These are substantially unnoticeable in the area as a whole. Thus, the entire 52,500-acre WSA meets the *Wilderness Act* criteria for naturalness.

### SOLITUDE

Opportunities to find solitude (i.e., a secluded spot away from others) within the WSA are influenced by size, topography, vegetation, and the absence of distracting sights and sounds.

The WSA is of sufficient size to allow visitors to be secluded from one another.

The Fish Springs Range is long and narrow, bisected by narrow canyons and rocky drainages ending in large alluvial fans. These canyons are often deep and winding, screening visitors from each other. Steep slope and ridges offer other possibilities for avoiding other people in the vicinity. Topography is not a factor affecting solitude on the lower benches.

Vegetation is generally sparse. Isolated stands of pinyon-juniper and fir are found at the higher elevations which assist in providing solitude in those locations. Topographic and vegetation screening are very limited on the benchlands.

The Fish Springs WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range which includes the Fish Springs WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

Traffic on nearby roads is also of short duration and is not considered to have a significant effect on solitude in the WSA.

These factors, when considered together, indicate that the quality of the opportunities for finding outstanding solitude occurs in the central part of the WSA (48 percent or 25,200 acres). Opportunities for finding solitude are less than outstanding on 52 percent (27,300 acres) of the WSA consisting primarily of benchlands.

### PRIMITIVE AND UNCONFINED RECREATION

Opportunities for primitive, unconfined recreation were evaluated by considering miles of hiking routes in relationship to the WSA's size, the number of primitive recreational opportunities present, and the quality of these opportunities. As discussed in the Recreation section, this WSA was determined to have opportunities for 13 different activities. However, only one of the activities, geologic sightseeing, is considered of better than average quality. Opportunities for this activity are best in the rugged central portion of the WSA as opposed to the surrounding benchlands.

These factors, when considered together, indicate that the opportunities for primitive, unconfined recreation meet the standards set by the *Wilderness Act* on 25,200 acres in the central part of the range but not along the lower benchlands comprising 27,300 acres.

### SPECIAL FEATURES

The WSA is considered an excellent example of attenuation faulting, a geologic process of interest to geologists. There are approximately 28,127 acres within the central portion of the WSA where this phenomena can be observed.

## Land Use Plans and Controls

There are five State sections inside the WSA and an additional ten State sections adjacent to it. The management philosophy for all State sections is to maximize economic returns for the State School Fund. No activities are currently occurring on these lands, which are all under lease for oil, gas, or grazing.

There are no private in-holdings or private subsurface rights. Rights-of-way include one small patented mining claim in the northwest corner and one 10-acre right-of-way to the U.S. Army Corps of Engineers.

Gravel roads, which are secondary travel routes, border the WSA on the west, east, and south.

Juab County does not have a current master plan but has nearly completed a plan that does not specifically address wilderness. The county generally prefers multiple use, their concept being that open spaces be used for many purposes on public lands (Six County Commissioners Organization, 1983).

The current BLM plan for the area is the West Desert Planning Area MFP (USDI, BLM, 1973b). This plan predates wilderness considerations. It has not been reviewed by the Governor of the State of Utah for consistency with State plans and policies. The West Desert MFP will be replaced with the House Range RMP scheduled for completion in 1986. The West Desert MFP currently allows the uses identified in the Description of the No Action Alternative.

## Socioeconomics

### DEMOGRAPHICS

The Fish Springs WSA is located in Juab County, Utah. Census figures for 1980 show a Juab County population at 5,530 (an increase of 20.9 percent since 1970). Nephi (3,285) is the largest community in Juab County. The construction of the Intermountain Power Project (IPP) will add somewhat significantly to the population of Juab County.

Nephi (a town of approximately 3,285 in Juab County), located approximately 70 miles east of the WSA, and Delta (a town of approximately 1,930 in Millard County), located approximately 50 miles southeast of the WSA, are main gateways and service centers to the Fish Springs WSA.

### EMPLOYMENT

The government (Federal, State, and local) sectors provide the greatest amount of employment in Juab County. Farm employment makes up about 14 percent of the total employment in Juab County. Table 7 presents first quarter 1982 employment figures for Juab County.

**TABLE 7**
**1982 Nonfarm Employment Figures**
**Juab County, Utah**

| Type/Source | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 91 | 5.7 |
| Construction | 112 | 7.0 |
| Manufacturing | 313 | 19.5 |
| Transport, Communication, and Public Utilities | 39 | 2.4 |
| Trade | 385 | 23.9 |
| Finance, Insurance, and Real Estate | 40 | 2.5 |
| Services | 199 | 12.4 |
| Total Government[1] | 427 | 26.6 |
| Total | 1,606 | 100.0 |

Source: Utah Department of Employment Security, 1982.

[1] Total Federal, State, and local.

The construction of IPP is also having, and will continue to have, a significant impact on both employment and income in Juab County.

## INCOME AND REVENUES

Approximately 71 percent of earnings income in Juab County is from the private sector (refer to Table 8). Manufacturing is the highest income-producing portion of the private sector, producing 17 percent of the income in the county. Government provides 29 percent of the employment income in the county.

**TABLE 8**
**1982 Personal Income and Earnings**
**Juab County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 19,779 | 37.5 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 483 | -15.1 |
| Nonfarm | 19,296 | 39.7 |
| Private | 13,814 | 30.7 |
| Agricultural Service and Other | 88 | 1.1 |
| Mining | 1,150 | (D) |
| Construction | 2,727 | (D) |
| Manufacturing | 3,308 | -35.3 |
| Transportation and Public Utilities | 810 | 10.7 |
| Wholesale Trade | 1,023 | 77.3 |
| Retail Trade | 2,676 | 15.6 |
| Finance, Insurance and Real Estate | 648 | 90.0 |
| Services | 1,384 | 17.0 |
| Government | 5,482 | 68.9 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 1984.

(D) Not shown to avoid disclosure of confidential information or for items $50,000 or less. Data are included in totals.

Economic-related activities in the WSA include mineral exploration, livestock production, woodland production, and recreation. Table 9 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

The WSA has 131 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all claims are current in assessment.

No oil and gas or mineral production has occurred in the WSA. Therefore, mineral and energy resource production from the WSA has not contributed to local employment or income.

**TABLE 9**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | — | $157,500 |
| Geothermal Leases | — | $6,400 |
| Mining Claim Assessment | Less than $13,100 | 0 |
| Livestock Grazing | $50,160 | $3,511 |
| Recreation | Less than $205 | 0 |
| Total | Less than $63,465 | Up to $167,411 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

Four livestock operators have a total grazing privilege of 2,508 AUMs within the WSA. If all this forage were utilized, it would account for $50,160 of livestock sales including $12,540 of ranchers' returns to labor and investment.

Some woodland products are harvested from the WSA; however, the harvests have been small and are insignificant to the local economy and only of minor significance to those involved in the harvest.

The WSA's nonmotorized recreational use and related local expenditures are low and well distributed. These expenditures are insignificant to both the local economy and individual businesses. The WSA's motorized recreational use and related local expenditures are low. They are insignificant to both the local economy and individual businesses. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Fish Springs WSA is estimated as about 50 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Juab County.

The WSA generates Federal revenues from mineral leases and livestock (refer to Table 9).

Oil and gas leases in the WSA cover the entire 52,500 acres. At $1 to $3 per acre, oil and gas lease rental fees could generate up to $157,500 of Federal revenues annually. Geothermal leases cover approximately 1,600 acres. At $1 per acre, geothermal lease rental fees generate up to $1,600 of Federal revenues annually. Without diligent development, these leases could bring as much

as $4 per acre or $6,400 in Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA can use up to 2,508 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $3,511 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as noted in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements of all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area (although the likelihood is thought to be low) would be related to oil and gas and locatable mineral exploration and development. The area would be open to resource uses and development without controls for wilderness protection. The degree of future development is unknown but would probably be low due to the WSA's rough terrain and limited resource potential. The following is a worst-case analysis based on the assumption that minerals would be developed sometime in the future and cause the following disturbance: oil and gas, 160 acres; geothermal, 46 acres, uranium, 20 acres; beryllium, 35 acres; and lead/zinc/tungsten, 35 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area. Mineral-related disturbance of 296 acres would result in minor temporary increases in fugitive dust emissions. Because no major sources of air pollutant emissions are proposed in the vicinity of the WSA, air quality would remain essentially as at present.

There could be some degradation (within the PSD Class II limitations) due to operation of IPP. Depending on meteorological conditions, a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979).

### GEOLOGY

No impacts to geology are expected because disturbances associated with locatable minerals (i.e., uranium, beryllium, lead/zinc/tungsten) and oil and gas and geothermal exploration and development activities would probably not exceed 296 acres and would involve surface disturbance or widely spaced wells. This would not change the geologic structure of the area.

### SOILS

It is estimated that up to 296 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur

in areas with slight erosion class (at a current annual erosion rate of 0.6 cubic yards per acre) and that erosion condition would increase one class to moderate (at a current annual erosion rate of 1.3 cubic yards per acre), soil loss on the 296 acres would increase from 178 cubic yards/year to 385 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 207 cubic yards (approximately 0.66 percent) over the current annual soil loss (31,500 cubic yards) to approximately 31,707 cubic yards per year. This is a small increase, and the effects would be imperceptible.

## VEGETATION

Some individual plants would be lost as a result of mineral exploration and development. However, because protective measures would be implemented and because the maximum anticipated disturbance would be no more than 296 acres, the disturbance allowed under this alternative would not result in a major change to any vegetation type.

There are no known threatened, endangered, or sensitive plant species within or near this WSA. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the Fish and Wildlife Service (FWS) as required by BLM policy. If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigative measures would be applied. Because necessary measures would be taken to protect these plants if found, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive plant species would be protected.

## WATER RESOURCES

Since precipitation is low and all streams are ephemeral within the WSA, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 207 cubic yards of annual soil loss from surface disturbance. Opportunities for maintenance, additional improvements, or expansion of existing water sources could occur but are not planned in the current MFP.

Mineral exploration and development in the area would generally be confined at or near the surface or with widely spaced wells and would not significantly change ground water quantity or quality.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

The potential for up to 10 million barrels of oil, up to 60 billion cubic feet of natural gas, and a moderate heat geothermal resource (all in-place estimates) exists within the WSA. About 3 million barrels of oil and 18 billion cubic feet of gas would be recoverable. These oil and gas and geothermal resources could be explored and developed, subject to Category 2 (standard and special stipulations) criteria. Category 2 stipulations would have no effect on the operator's ability to explore and develop the area. Approximately 206 acres of surface disturbance would take place if exploration and development were to occur for oil and gas (160 acres) and geothermal (46 acres). Due to the small size of potential deposits, oil and gas production is not expected under this alternative. Development of the geothermal resource is also unlikely in the near future with electrical power soon to be produced at the nearby IPP.

### Locatable Minerals

The entire WSA would remain open to mining claim location. The potential in-place deposits estimated under this alternative are less than 10 tons of beryllium, 500 tons of uranium oxide, 500 tons of tungsten, and between 50,000 to 1,000,000 tons of lead/zinc. Approximately 90 acres could be disturbed due to exploration and development of these locatable mineral resources. Employment of unnecessary or undue degradation stipulations would not affect the operator's ability to develop the area. However, the likelihood of development is thought to be low because of economic considerations (e.g., transportation and low resource potentials except for lead/zinc).

### Salable Minerals

Utilization of the WSA's sand and gravel resources could occur under this alternative. However, due to low demand and nearby large deposits, use of the deposits in the WSA is unlikely in the foreseeable future.

## WILDLIFE

Up to 296 acres of wildlife habitat, including crucial yearlong golden eagle habitat, crucial summer mule deer range, and yearlong mule deer and antelope ranges, could be subjected to mineral-related surface disturbance. The activity and disturbance would disrupt wildlife. Mobile animals including deer, pronghorn antelope, and raptors would be dispersed from the area for the

lifetime of these activities. Desert bighorn sheep, if introduced, would avoid the disturbed areas. Less mobile wildlife would either perish or coexist with these disturbances at smaller and less viable population levels. The antelope guzzler and future wildlife improvements could be constructed without restrictions to protect wilderness values.

Prior to authorizing surface-disturbing activities the BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy (refer to Appendix 4). If the activity could jeopardize the continued existence of the bald eagle and peregrine falcon (both endangered species), formal Section 7 consultation would be initiated with the FWS under the provisions of the Endangered Species Act. Appropriate mitigative measures would be applied. The conclusion can, therefore, be made that this alternative would have no effect on threatened, endangered, or sensitive species that occur in this WSA.

### FOREST RESOURCES

The woodland products in this WSA could be utilized under this alternative. However, due to the remoteness of the area and the limited and scattered resource, it is unlikely there will ever be demand for forest products in this WSA; therefore there would be no loss or harvest of forest resources under this alternative.

### LIVESTOCK

Domestic livestock grazing would continue as authorized in the West Desert Planning Area MFP, with portions of two allotments used by two permittees. There would be no changes in or effect on the current livestock use and management under this alternative. The potential 296 acres of mineral-related disturbance would temporarily reduce available forage on less than 1 percent of the WSA. Rehabilitation would restore the range to the same or better quality. The existing developed spring and well would continue to be used and maintained and the existing ways would continue to be used for livestock management. Additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. No livestock management facilities are currently proposed, however, and few changes in livestock management techniques are expected.

### VISUAL RESOURCES

Under this alternative, visual quality in the WSA would be somewhat protected by limitations placed on potential surface-disturbing activities (i.e., 34,650 acres would be managed under VRM Class II objectives requiring that activities not be apparent).

However, under this alternative 296 acres of mineral-related exploration and development are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in Class II areas during the short term. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole. The 5 miles of proposed pipeline and 1.5 miles of proposed fence would be designed to meet VRM standards and would have minimal and temporary impacts on the visual values of the area.

### CULTURAL RESOURCES

Disturbance of as much as 296 acres by mineral exploration and development under this alternative could inadvertently destroy sites. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would lessen impacts. The overall effect on cultural resources would be low due to mitigating measures that would be taken prior to surface-disturbing activities. Vandalism of sites would be expected to increase in proportion to the general population increase.

### RECREATION

Up to 296 acres could be disturbed by mineral and energy activities. Primitive recreational opportunities and quality would be diminished on the affected areas. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. Approximately 10 miles of existing ways would continue to be open to recreational access, including access for hunting. New roads that may be created for energy and mineral exploration and development would also improve access into the area for nonprimitive recreation.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over

the next 20 years. At this rate overall recreational use is expected to increase from 50 current visitor days per year to 75 visitor days at the end of 20 years.

Commercial outfitting opportunities (no current activities) would not benefit. Eventually, primitive recreational use could decline as vehicular use increased.

### WILDERNESS VALUES

Under this alternative the area would continue to be managed under the West Desert Planning Area MFP until this plan is replaced with the House Range RMP scheduled for completion in 1986. Wilderness characteristics in the WSA would only be marginally protected by limitations placed on potential surface-disturbing activities (i.e., 34,650 acres would be managed under VRM Class II objectives requiring that activities not be apparent).

Under this alternative, 296 acres of mineral exploration and development are possible. The related surface disturbance would result in a significant loss of naturalness and outstanding opportunities for primitive, unconfined recreation and solitude (25,200 acres) throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area. The WSA has been given a rather high OIR, indicating the area has potential for such mineral development and related disturbance. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude within the WSA.

### LAND USE PLANS AND CONTROLS

This alternative would be consistent with Juab County policies because land use would continue as at present. It would also be in conformance with the West Desert Planning Area MFP and consistent with the State of Utah's policy to maximize economic returns for the State School Fund.

### SOCIOECONOMICS

Economic development of resources in this WSA would not change. Overall, no changes in existing patterns or trends of population or distribution of local employment and income would be expected.

Future growth in the economy of Juab County is expected to continue following the patterns of recent years, with the notable inclusion of IPP. Based on this assumption, the Utah Office of the State Planning Coordinator (1980) projects that the government sectors of both counties should not expand greatly beyond their current size while the retail trade, manufacturing, and services sectors will continue to grow at a relatively stable rate through the year 2000.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present. If the oil and gas, geothermal, beryllium, lead, zinc, and tungsten in the WSA were developed, it would lead to increased employment and income for Juab and possibly Millard Counties. The probability of economic development of minerals within the WSA is moderate (refer to the Mineral and Energy Resources section for a description of mineral and development potentials).

There would be no livestock-related economic losses because the existing grazing use (2,508 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Because recreational use in the area is estimated to increase only 25 visitor days per year at the end of 20 years and overall recreation-related expenditures average only $4.10 per visitor day (only a portion of which contributes to the local economy), recreation-related expenditures attributable to the WSA would likely not be significant to the local economy.

Federal and State revenues would not be reduced by this alternative. The entire WSA acreage is leased for oil and gas resources. Approximately 1,600 acres are leased for geothermal resources. There are 50,900 acres in the WSA open to leasing that are currently not leased for geothermal resources. If leased they would bring from $1 to $4 additional Federal lease fee revenues per acre per year depending on the amount of diligent development, in addition to possible royalties from lease production. Half of these monies would be allocated to the State, a portion of which could reach the local economy. Collection of livestock grazing fees ($3,511 per year) would continue. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (52,500 Acres)

As cited in the Description of the Alternatives section, the major changes that could occur in the

52,500-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 10 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as noted in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis, it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 90 acres of disturbance within the WSA. It is also assumed that the existing oil and gas leases and geothermal leases would expire before production of commercial quantities and would not be renewed nor would future leasing be allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas would be smaller than under the No Action Alternative (90 vs. 296 acres), the impacts from development and surface disturbance on air quality, geology, soils, vegetation, livestock, water, forest, and cultural resources under the All Wilderness Alternative would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce the potential for disturbance. Other effects on these resources due to changes in management are discussed below.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

Although most of the WSA (3,900 acres pre-FLPMA and approximately 48,600 acres post-FLPMA) is under oil and gas lease and 1,600 acres are under geothermal lease, no exploration or development of oil and gas or geothermal resources is presently occurring within the WSA.

Existing pre- and post-FLPMA leases could be developed subject to the stipulations issued at the time of leasing. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases will not be reissued. Exploration for and development of a potential moderate temperature geothermal resource and a potential resource of less than 10 million barrels of oil and less than 60 billion cubic feet of natural gas (in-place) with 3 million barrels of oil and 18 billion cubic feet of natural gas considered recoverable would be foregone under this alternative. Due to the small size of the potential oil and gas deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas recovery. Although the potential for recovery of the geothermal resource is good, the demand is low and there is no foreseeable development of the resource. Therefore, this alternative would not result in any significant loss of potential geothermal resource recovery.

### Locatable Minerals

Approximately 2,706 acres are under mining claim within the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines but with consideration given to protecting wilderness values. If minerals are located prior to wilderness designation, it is estimated that up to 90 acres could be disturbed due to exploration and development of the locatable mineral resources. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case the potential for recovery of up to 10 tons of beryllium, 500 tons of tungsten, between 50,000 to 1,000,000 tons of lead/zinc, and 500 tons of uranium oxide would be foregone. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b).

It is estimated that up to 90 acres could be disturbed due to exploration of locatable mineral resources should this alternative be adopted. Because production of these metals is not currently occurring and because economic considerations (e.g., transportation, demand, etc.) are unfavorable, it is unlikely that development would occur in the foreseeable future. However, the opportunity to develop the locatable mineral resources in this WSA, many of which have been given a fairly high potential for occurrence, would be foregone.

### Salable Minerals

The opportunity to develop the sand and gravel resource in the WSA would be foregone under this alternative. Because sand and gravel can be found in large quantities in more accessible areas outside the WSA, this alternative would not result in any significant impact to salable mineral production on a local, regional, or national level.

## WILDLIFE

Because mineral-related disturbance under this alternative would be reduced from a possible 296

acres to a possible 90 acres, the WSA's crucial golden eagle habitat, crucial summer mule deer range, and yearlong mule deer and antelope range would be better protected under this alternative than under the No Action Alternative. There would be less potential for temporary displacement of animals (including the bald eagle and peregrine falcon, both endangered, and the golden eagle, which is sensitive) due to surface-disturbing activities. The planned antelope guzzler, as well as future wildlife developments (none are currently planned), could be built as long as wilderness protection criteria were met (refer to Appendix 1). Desert bighorn sheep could be reintroduced into the area under this alternative and would benefit due to solitude provided by wilderness designation.

### FOREST RESOURCES

Under this alternative, no woodland harvest would occur. Nearly all of the aspen and Douglas fir timber are on steep slopes and are unavailable for harvest because of terrain. Although about 100 acres of old growth ponderosa pine in the Dandelion Flat area are potentially harvestable, cost analysis indicates that harvesting would not be economical. There is no demand for commercial forest products in the Fish Springs WSA currently or in the foreseeable future due largely to the remoteness of the area and the limited resource. Therefore, no loss or harvest of forest resources is expected.

### LIVESTOCK

No changes in livestock grazing allocations (currently 2,508 AUMs) are expected from this alternative. The existing developed well and spring could continue to be used and maintained in the same manner as in the past based on practical necessity and reasonableness. The fence and pipeline systems currently proposed could be developed under this alternative as long as wilderness protection criteria (refer to Appendix 1) are met. However, this criteria could add to their cost. Development of future roads or other livestock management facilities for use with 2,508 AUMs in the WSA could be restricted to preserve wilderness values. Restrictions that would be applied to use of existing ways could affect the way livestock are managed in the WSA.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through closure of the entire area to ORV use, and through closure of the entire area to future mineral leasing and location.

Under this alternative possible mineral-related surface disturbance associated with development of valid mining claims would be reduced from 296 acres to 90 acres. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. If roads for development of valid mining claims are located throughout the WSA (worst-case analysis), VRM Class I objectives might not be met on large portions of the WSA. Some of the locatable minerals have a relatively high potential for occurrence in the WSA and the possibility of mineral-related disturbance is high. Still, the likelihood that mineral-related surface disturbance would affect the quality of visual resources in the WSA as a whole is less under this alternative than under the No Action Alternative.

The currently planned 5 miles of pipeline and 1.5 miles of fence would be designed to meet VRM standards. However, they would probably not meet VRM Class I objectives during the short term. The impact would, however, be minimal and temporary on the visual values of the area.

### CULTURAL RESOURCES

Approximately 90 acres (0.17 percent of WSA) could be disturbed by mineral exploration and development in areas that would be designated wilderness; however, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any and all proposed surface disturbance and would mitigate any adverse impacts. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal.

There is a potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

### RECREATION

Under this alternative, possible surface disturbance would be reduced from 296 acres to 90 acres, and the WSA's primitive recreational

opportunities would be recognized, managed, and protected.

If roads are developed throughout the area for development of existing valid mining claims (worst-case analysis), primitive recreational opportunities could be lost in the WSA as a whole. The potential for this level of disturbance is much less under this alternative than under the No Action Alternative.

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. The 10 miles of vehicular ways would not be available for recreational access, especially hunting access which would probably reduce hunting use of the area. Vehicular hunting and sightseeing in the WSA that could occur without designation would be eliminated from the WSA. Because there are other suitable ORV play areas in the vicinity of the WSA, ORV use would probably not experience an overall decline in the vicinity of the WSA. As primitive recreation use increases, commercial outfitting operations based on primitive recreational activities could apply for and benefit from use of the WSA.

### WILDERNESS VALUES

Designation and management of all 52,500 acres as wilderness would contribute to the preservation of the wilderness values of size, naturalness (on all 52,500 acres), and outstanding opportunities for solitude and primitive and unconfined recreation (on 25,200 acres), except on up to 90 acres that could be disturbed by possible mineral location and development. These disturbances would have long-term effects on wilderness values in localized areas. If roads for mineral exploration and development are located throughout the WSA (worst-case analysis), it is possible that wilderness values could be lost in the WSA as a whole. However, mitigation would be applied to protect wilderness values, and it is less likely that mineral exploration and development would conflict with wilderness values in the WSA as a whole under this alternative than under the No Action Alternative. The special geologic features in this WSA would also be protected. Increased recreational use due to designation is expected to be minimal, and no impact on wilderness values would be expected. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

There is no current master plan for Juab County. The county generally prefers multiple use, their concept being that open spaces be used for many purposes on public lands. This alternative would not totally conflict with the county's multiple-use concept since many existing resource uses would continue, although under more restrictive conditions. However, designation would conflict with the county's plans because oil and gas and geothermal leases would expire and future leasing and location of minerals would not be allowed. If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns. Wilderness designation would constitute an amendment to the West Desert MFP. The forthcoming House Range RMP will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 9) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is moderate (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas and geothermal leases and mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because

the potential for mineral development is moderate, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $50,160 of livestock sales and $12,540 of ranchers' return to labor and investment. Proposed improvements for livestock would be foregone along with any resulting increase in ranchers' income. No such potential range improvements have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide). Motorized recreational use of the WSA is light. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

The loss of leases on 52,500 acres now leased for oil and gas would cause an eventual loss of up to $157,500 per year of lease fees to the Federal Treasury. The loss of leases on 1,600 acres now leased for geothermal resources would cause a loss of $1,600 to $6,400 per year of lease fees to the Federal Treasury. There would also be a potential loss of $50,900 to $203,000 annually in Federal revenues from the 52,500 acres that could be leased without designation. In addition to these rental fees, any potential royalties from new lease production could also be foregone.

## Partial Wilderness Alternative (33,840 Acres) (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 33,840-acre area designated as wilderness and the 18,660-acre nondesignated area are discussed in the Description of the Alternatives section.

It is assumed that, in the designated area, some of the existing mining claims would eventually be explored and developed, causing an estimated 69 acres of disturbance. It is also assumed that existing oil and gas and geothermal leases in the designated portion would expire before production of commercial quantities. Oil and gas and geothermal leases would not be renewed and future leasing would not be allowed.

It is assumed that, within the nondesignated area, 115 acres would be disturbed sometime in the future due to mineral and oil and gas exploration and development.

Overall, 184 acres of surface disturbance would occur within the WSA, 112 acres less than under the No Action Alternative and 94 acres more than with the All Wilderness Alternative. Appendix 10 lists surface disturbance assumptions and estimates for the WSA.

The analysis of the No Action Alternative shows that full development of potential resources with associated surface disturbance (296 acres) would not significantly affect air quality, geology, soils, vegetation, water, forest, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative which assumes 112 acres less surface disturbance, and these resources are not discussed here. Restrictions on management and development methods within the WSA would result in essentially the same impacts on wildlife, cultural resources, and land use plans as described for the All Wilderness Alternative, and these resources are not discussed further here. The following analysis describes those resources with measurable differences in impact between this alternative and the All Wilderness and/or No Action Alternatives.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

The area that would would be designated wilderness would be placed in Category 4 status with no new leasing. There are approximately 33,840 acres of post-FLPMA oil and gas leases and approximately 264 acres of pre-FLPMA geothermal leases. Activities on these leases would occur subject to the stipulations issued at the time of leasing. Activities on the post-FLPMA leases must be nonimpairing. It is assumed that commercial quantities of energy resources would not be discovered prior to expiration of the leases, and that they would not be reissued.

It cannot be determined how much of the existing potential resource of less than 10 million barrels of in-place oil, less than 60 billion cubic feet of natural gas, and the moderate gradient geothermal resource falls within the area that would be designated as wilderness. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated to be recoverable.

Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 1 million barrels of oil, 7 billion cubic feet of natural gas, and the geothermal resource on the 33,840 acres would be foregone. This would allow recovery of 2 million more barrels of oil and 11 billion more cubic feet of natural gas than under the All Wilderness Alternative. This alternative would allow for recovery of the geothermal resource on the 18,660 acres not designated.

This alternative would allow for more recovery of the oil and gas and geothermal resources than would the All Wilderness Alternative, but for less recovery of the oil and gas and geothermal resources than the No Action Alternative. Due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of the oil and gas resource. The potential geothermal resource is not expected to be developed in the foreseeable future even without wilderness designation because of no demand. This alternative would eliminate some of the leasable mineral conflict with wilderness designation because all of the pre-FLPMA oil and gas leases and 336 acres of the pre-FLPMA geothermal leases are in the area that would not be designated.

### Locatable Minerals

Approximately 82 acres of mining claims are within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to wilderness values. After designation, all other lands within the designated area (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b). The remaining 2,624 acres of claims are in the area that would not be designated and these and future claims in this area could be developed, extracted, and patented without wilderness considerations.

It cannot be determined how much of the potentially recoverable 10 tons of beryllium, 500 tons of tungsten, between 50,000 and 1,000,000 tons of lead/zinc, and 500 tons of uranium oxide in the WSA are within the area that would be designated as wilderness under this alternative. Assuming that locatable minerals are evenly distributed in the WSA and that mineral deposits are not included in mining claims filed before designation, the potential for recovery of 6.5 tons of beryllium, 325 tons of tungsten, 32,500 to 650,000 tons of lead/zinc, and 325 tons of uranium oxide would be foregone. This would allow for recovery of 3.5 tons more beryllium, 175 tons more tungsten, 17,500 to 350,000 tons more lead/zinc, and 175 tons more uranium oxide than under the All Wilderness Alternative.

Because these metals are not being recovered at present within the WSA and because economic considerations (e.g., transportation, low potential except for lead/zinc, etc.) are unfavorable, it is unlikely that development would occur even without wilderness designation. This alternative would greatly reduce the conflict with existing claims being in a wilderness area because most of the claims are in the area that would not be designated.

### Salable Minerals

Utilization of the WSA's sand and gravel resources could occur under this alternative because they would be outside of the designated area. Due to low demand and nearby large deposits, use of the deposits in the WSA is unlikely in the foreseeable future.

## WILDLIFE

Under the Partial Wilderness Alternative, wildlife would benefit overall due to the protection of solitude and naturalness on 64 percent of the WSA. Approximately 33,840 acres (64 percent) of the crucial golden eagle habitat, 350 acres (43 percent) of the crucial mule deer summer range, all of the 22,400 acres of yearlong mule deer range, and 31,319 acres (90 percent) of the bighorn sheep habitat in the WSA are in the portion of the WSA that would be designated wilderness under this alternative.

Approximately 184 acres of surface disturbance could occur under this alternative. Appropriate measures would be taken to protect peregrine falcon, bald eagle, and golden eagle prior to surface-disturbing activities, and it can be assumed that populations of threatened, endangered, and sensitive species would be preserved under this alternative.

The desert bighorn sheep transplant could occur under this alternative. The planned antelope guzzler would be located in the nonwilderness portion of the area and could be developed without concern for wilderness values.

### LIVESTOCK

Of the 2,508 AUMs allocated in the WSA most, if not all, would be within the nondesignated portion. Except for approximately .5 mile of pipeline and .5 mile of fence, all planned livestock developments would be outside the designated area. Although the pipelines and fenceline could be built both inside and outside the designated area, wilderness protection stipulations would not be required outside the wilderness area, making construction, use, maintenance, and development less cumbersome. Also, only 2 of the 10 miles of ways within the WSA would be in the designated portion, allowing for use of most of the ways for livestock management. This alternative would be less restrictive to livestock management than the All Wilderness Alternative but more restrictive than the No Action Alternative.

### VISUAL RESOURCES

Wilderness designation of 33,840 acres would contribute to the preservation of the area's highest quality visual resources. Almost all of the A (highest) quality scenery in the WSA is in this area. In the 33,840-acre designated area the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through an ORV closure, and through closure of the entire area to future mineral leasing and location.

Because total surface disturbance in the WSA would be 184 acres under this alternative as opposed to 296 acres under No Action and 90 acres under All Wilderness, the impact on visual resources would be less than under the No Action Alternative and more than under the All Wilderness Alternative. In the portion recommended for designation, as much as 69 acres of surface disturbance resulting from mineral exploration and development would cause localized long-term degradation of scenic values and exceed VRM Class I management objectives. An additional 115 acres in the nondesignated portion of the WSA would be disturbed and would not meet VRM Class II objectives. Disturbance of a total of 184 acres within the WSA would result in localized impairment of visual values until reclamation was completed. If roads for the development of mining claims are located throughout the WSA (worst-case analysis), visual quality could be reduced in the area as a whole. However, this is much less likely under this alternative than under the No Action Alternative.

### RECREATION

Impacts to recreational values and opportunities and increased use in the 33,840-acre area that would be designated as wilderness would be as described in the All Wilderness Alternative. Approximately 2 miles of ways within the WSA would be closed to ORV use. Little impact on ORV recreational use would be expected due to the lack of such activity in the area.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative disturbance from mineral-related exploration and development is possible on approximately 184 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area. Due to the varying likelihood of surface disturbance, this is less likely to happen under this alternative than under the No Action Alternative and more likely to happen than under the All Wilderness Alternative. Roads and ways created for energy and mineral exploration and development would improve access into the area for nonprimitive recreation. Also, 8 of the 10 miles of ways presently within the WSA would be in the nondesignated portion of the WSA and could continue to be used for recreational access by vehicles.

### WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 33,840 acres that would be designated wilderness. Size, naturalness (all 33,840 acres meet the standard), outstanding opportunities for solitude (25,200 acres meet the standard) and primitive recreation (25,200 acres meet the standard), and special features (the special geologic features are in this area) would be preserved through management under VRM Class I and closure of the area to mineral leasing and location and ORV use. Also, no development of existing leases would be expected within the designated area. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration and development activities associated with valid mining claims on up to 69 acres. Additionally, sights, sounds, and emissions of activities within and adjacent to the 18,660-acre area that would not be designated could result in loss of solitude and primitive recreational values within the designated portion. Although recreation use could increase in the WSA due to wilderness designation (refer to Recreation section under the All Wilderness Alternative), use relative to the

size of the area would be low, and no significant effect on solitude and primitive recreation values would be expected from such an increase. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

In the 18,660-acre area that would not be designated, there would be as much as 115 acres of disturbance from mineral and energy exploration and development activities. Those activities would degrade wilderness values (naturalness and opportunities for solitude and primitive recreation [both rated less than outstanding]) from the commencement of activities through rehabilitation. Disturbance could eliminate wilderness values not only on affected areas but in the WSA as a whole if roads are constructed throughout the WSA for mineral-related development (worst-case analysis). The likelihood of this occurring is minimal, but less under this alternative than under the No Action Alternative and more than under the All Wilderness Alternative.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 9) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is moderate (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). There are presently oil and gas leases on the entire 33,840 acres of the WSA that would be designated wilderness under this alternative. Approximately 1,264 acres of geothermal leases also occur in the designated area. There are approximately 82 acres of mining claims in this portion. Valid existing leases and mining claims could be developed but designation would preclude new leases and claims from being established in the designated portion of the WSA. Precluding exploration and development of minerals in this portion would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is moderate, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $50,160 of livestock sales and $12,540 of ranchers' return to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Motorized recreational use of the WSA is light, but would continue on approximately 8 miles of ways in the WSA. Recreation local expenditures would be small (average of $4.10 per visitor day statewide).

The loss of 33,840 acres of oil and gas leases would cause an eventual loss of up to $101,520 per year of lease fees to the Federal Treasury. The loss of 1,264 acres of existing geothermal leases would cause an annual loss of $1,264 to $5,056 in lease fees to the Federal Treasury. There would also be a potential loss of $32,576 to $130,304 annually in Federal revenues from the 32,576 acres that could be leased for geothermal resources without designation. In addition to these rental fees, any potential royalties from new lease production could also be foregone.

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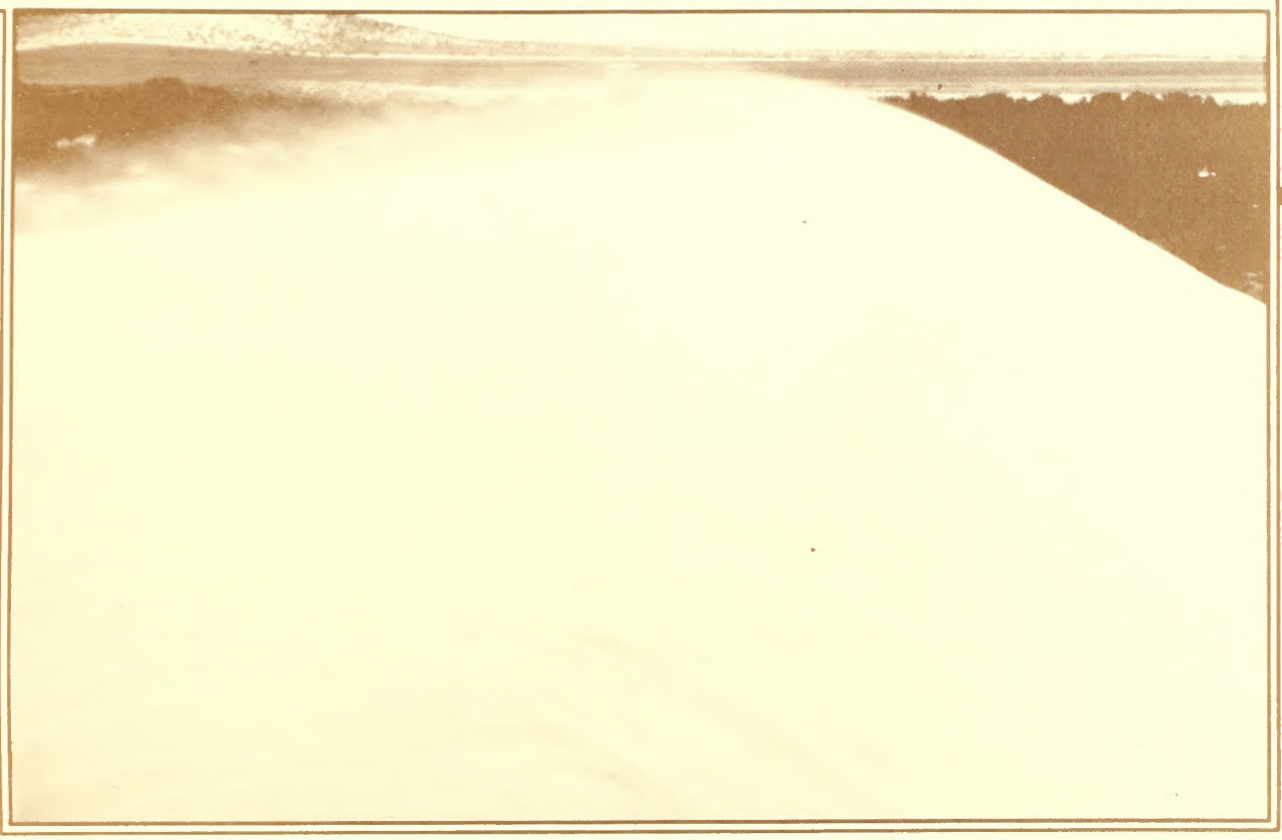
Rockwell
WSA



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# ROCKWELL WSA
# (UT-050-186)

## INTRODUCTION

### General Description of the Area

The Rockwell Wilderness Study Area (WSA) contains 9,150 acres of public land in the center of Juab County, about 28 miles west of the community of Nephi. The WSA is characterized by free-moving open sand dunes, pinyon-juniper-covered sand ridges, and sagebrush flats. The WSA is an alluvial and sand dune-covered graben valley surrounded by the Tintic and Sheeprock Mountains to the east and north, Desert Mountain to the west, and Black Mountain and Sand Mountain to the east and south. Old juniper trees and the ever-changing shadow effects on the dunes provide a variety of interesting visual settings. Principal uses of the area include wildlife habitat and recreation.

Great Basin climate is characterized by limited precipitation, low relative humidity, high frequency of clear skies, and large daily and annual ranges in temperature. Elevations are typically about 5,000 feet. Precipitation averages 8 to 10 inches per year. Rainfall peaks in the late summer to early fall thunderstorm season. Seasonal extremes range from a low winter recording of -25 degrees Farenheit (F) to a summer high of 106 degrees F.

### Specific Issues Identified In Scoping

General issues pertaining to more than the Rockwell WSA are discussed in Volume I. Specific issues pertaining to this WSA were identified through formal public scoping (USDI, BLM, 1984c) and are responded to below.

1. *Comment:* The oil and gas (mineral potential of the WSA is ranked as low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be at least moderate. This information should be considered in the Draft Environmental Impact Statement (EIS).

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

2. *Comment:* This WSA is already being managed as the Rockwell Natural Area as part of the Little Sahara Recreation Area.

   *Response:* Management of the area as the Rockwell Natural Area is addressed under the No Action Alternative sections of this document.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated From Detailed Study

No alternatives were identified other than those analyzed below.

### Alternatives Analyzed

Two alternatives are analyzed for this WSA: (1) No Action; and (2) All Wilderness (9,150 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

#### NO ACTION ALTERNATIVE (PROPOSED ACTION)

Under this alternative, none of the 9,150-acre Rockwell WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the Little Sahara Recreation Area Management Plan (USDI, BLM, 1979) and with the Tintic Planning Unit Management Framework Plan (MFP) (USDI, BLM, 1975) until that plan is superseded by the

STATEWIDE
POCKET MAP
WSA
NO. 5
SEE VOL. I

House Range Resource Area Resource Management Plan (RMP) currently scheduled for completion in 1986. It is assumed that it would continue to be managed as a designated natural area as provided for in the BLM land use plan. State lands adjacent to the WSA (refer to Map 1) would remain in State ownership, unless future arrangements result in an exchange to Federal ownership as part of the overall management of the BLM Little Sahara Recreation Area.

The following are specific actions that would take place under this alternative:

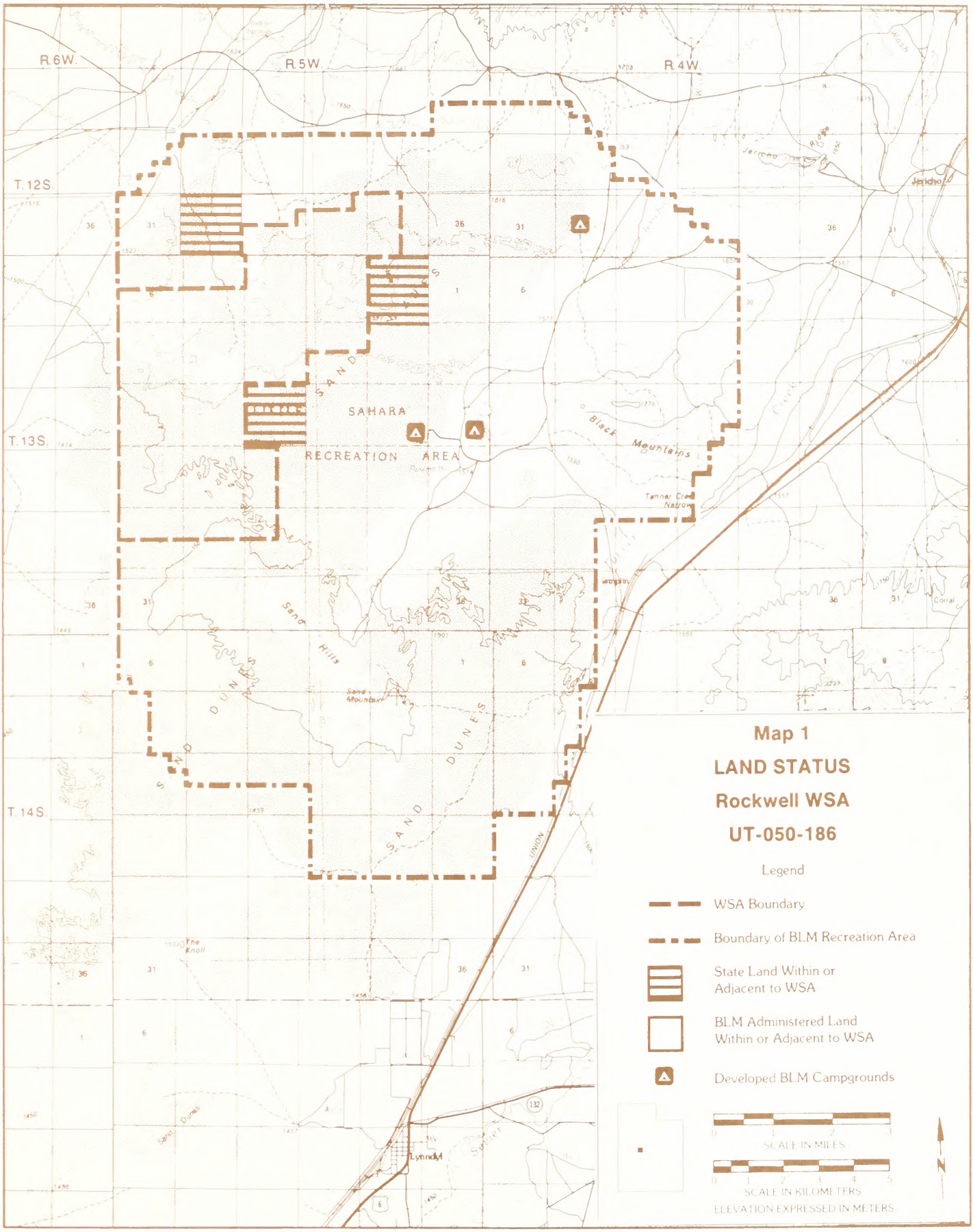
- All 9,150 acres would remain open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on existing mining claims (1,040 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation guidelines (43 Code of Federal Regulations [CFR] 3809) without concern for wilderness values. Existing oil and gas leases on the entire 9,150 acres could be developed without concern for wilderness values. In the future 3,559 acres would be managed as leasing Category 1 (standard stipulations) and 5,591 acres would be closed to leasing (Category 4).
- The present 212 Animal Unit Months (AUMs) allocated for domestic livestock grazing use in the WSA would continue as authorized in the BLM planning documents. Although none are currently proposed, new rangeland improvements could be proposed and implemented without wilderness considerations.
- Development, use, and maintenance of facilities and improvements for wildlife, water resources, etc. (none are currently planned) could be allowed if in conformance with the BLM planning documents.
- The entire WSA acreage would continue to be closed to off-road vehicle (ORV) use, as the area is presently closed to vehicle use as part of the Rockwell Natural Area. Approximately 1 mile of an existing vehicular way in the WSA would not be available for motorized use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions.
- The entire area would continue to be closed to woodland product harvest.
- The area would continue to be managed as Visual Resource Management (VRM) Class II (2,650 acres), Class III (2,924 acres), and Class IV (3,573 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- The WSA would continue to be closed to hunting as discussed in the Little Sahara Recreation Area Management Plan because of its location within the recreation area.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

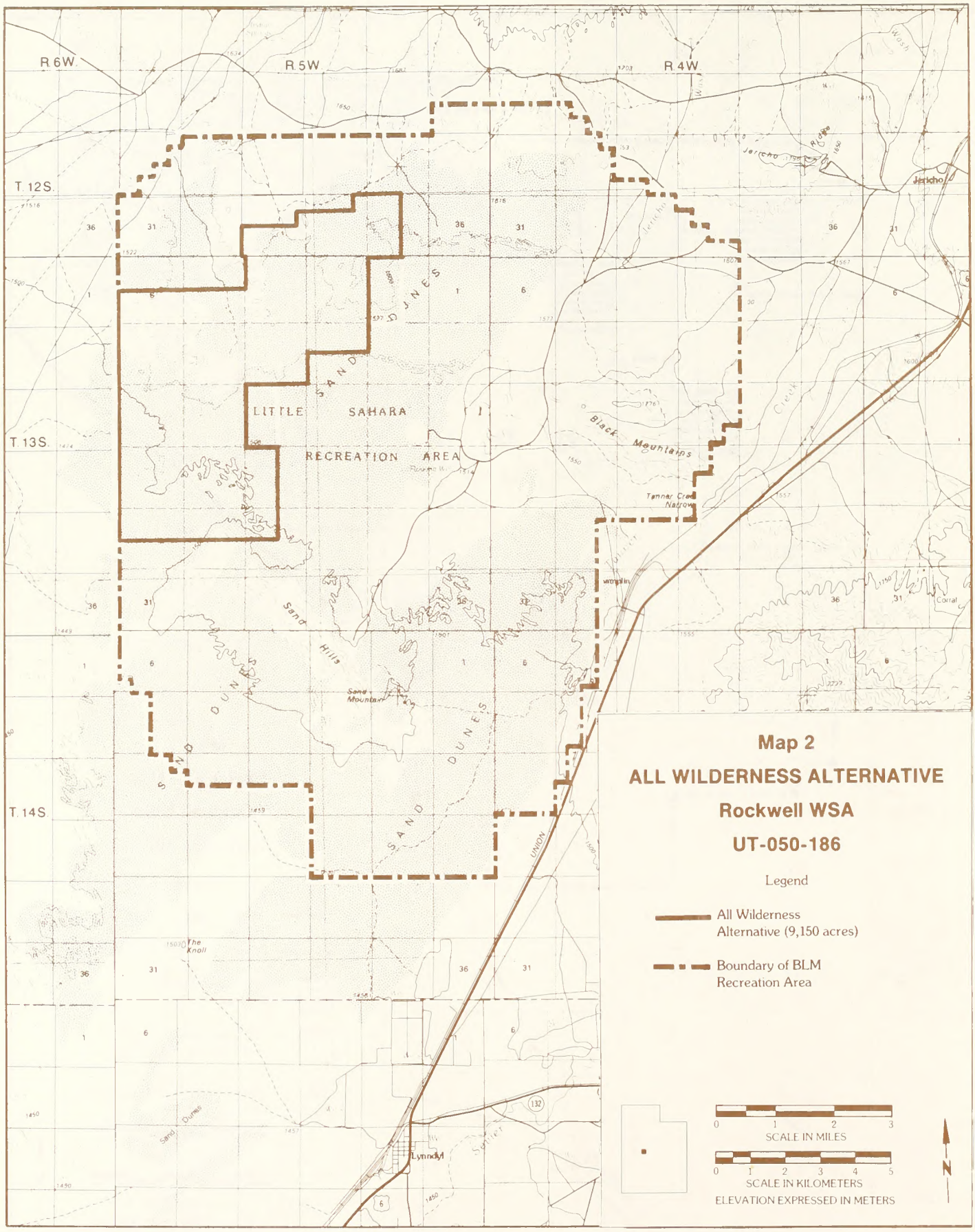
## ALL WILDERNESS ALTERNATIVE

Under the All Wilderness Alternative, all 9,150 acres of the Rockwell WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981) to preserve its wilderness character. There would be no sections of State land within the WSA. Two of the three State sections adjacent to the WSA likely would be exchanged (refer to Map 1). The figures and acreages given under this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 9,150 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 1,040 acres of existing 36 mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809), with consideration given to wilderness values. Existing oil and gas leases involving the entire WSA (9,150 acres), would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown.


R.6W.
R.5W.
R.4W.
T.12S.
T.13S.
T.14S.
SAHARA
RECREATION AREA
SAND DUNES
Black Mountains
Jericho
Lynndyl
Map 1
LAND STATUS
Rockwell WSA
UT-050-186
Legend
WSA Boundary
Boundary of BLM Recreation Area
State Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
Developed BLM Campgrounds
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N


R.6W.
R.5W.
R.4W.
T.12S.
T.13S.
T.14S.
LITTLE SAHARA RECREATION AREA
SAND DUNES
Black Mountains
Sand Hills
Sand Mountain
Tanner Creek Narrows
Jericho
Lynndyl
UNION
The Knoll
Sand Dunes
Map 2
ALL WILDERNESS ALTERNATIVE
Rockwell WSA
UT-050-186
Legend
All Wilderness Alternative (9,150 acres)
Boundary of BLM Recreation Area
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N

- Present domestic livestock grazing would be allowed to continue as authorized in the Tintic Planning Unit MFP until that plan is superseded by the House Range RMP scheduled for completion in 1986. The 212 AUMs in the WSA would remain available to livestock as presently allotted. There are no existing rangeland developments that would involve continued use and maintenance. After designation and subject to wilderness protection criteria (refer to Appendix 1), new rangeland developments would be allowed on a case-by-case basis if necessary for rangeland and/or wilderness resource protection and management; however, there are none proposed at this time.
- New water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed after designation only if compatible with wilderness values, if necessary to correct hazardous conditions, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are located in the Rockwell WSA, and none are planned.
- Wildlife transplants or developments would be allowed after designation only if compatible with wilderness values. None exist in this WSA, and none are currently planned.
- The entire 9,150-acre area would continue to be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. The area is currently closed to vehicular use as part of the Rockwell Natural Area. About 1 mile of existing vehicular way in the WSA would not be available for vehicular use except as indicated above. No existing roads border the WSA. However, four jeep trails dead-end near the WSA boundary, and these trails (outside the WSA) would be allowed to remain open to vehicular use.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 9,150-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along jeep trails that dead-end adjacent to the wilderness area for purposes of maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface.
- Harvest of forest products would not be allowed. There is no harvest of forest products at the present time because the area has a management restriction of no woodland harvest as part of the Little Sahara Recreation Area Management Plan.
- Visual resources would be managed in accordance with VRM Class I standards which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that such measures would be limited to hand or aerial techniques.
- Any activity for the purpose of gathering information about natural resources would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Hunting would not be allowed due to the proximity of the Little Sahara Recreation Area.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences expected to result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section briefly describes the affected environment. Unless otherwise cited, information for this section is from the Tintic Unit Resource Analysis (1974) and other BLM technical reports and documents.

### Air Quality

The Rockwell WSA is in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. The nearest Class I area (extremely limited air quality degradation permitted), is at Capitol Reef National Park, 90 miles to the east.

Air quality in the WSA is at present generally very good to excellent. Unimpaired visibility at present is an important value of the WSA. Panoramas of Great Basin blockfaulted mountains, rising steeply from sagebrush-covered plains, are greatly enhanced by the generally excellent clarity of the air. The WSA is near the center of the area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

However, the Intermountain Power Project (IPP), now under construction about 15 miles to the south of the Rockwell WSA, is expected to significantly impact the visual range quality. Depending on meteorological conditions, visibility at the WSA probably will be impaired because of atmospheric discoloration from plant stack discharge.

### Geology

The WSA is essentially an alluvial and dune-covered graben valley. It is bounded by the Tintic Mountains to the east, the Sheeprock Mountains to the north, and the Thomas Range and Drum Mountains to the west. Since the WSA lies in a valley, the topography is subdued. The highest point is an unnamed sand peak at 5,471 feet. The average elevation is around 5,000 feet. Nearly half the WSA is covered with low, rolling sand dunes. The dunes are one of the major attractions of the Little Sahara Recreation Area, of which the WSA is a portion. In general, large sand dunes are somewhat unusual in the Great Basin Physiographic Region. However, the sand dunes in the WSA are somewhat less spectacular than those found immediately adjacent to the WSA.

### Soils

The soils in this WSA are of two general soil associations. They are dry, light-colored, deep, calcareous, and mildly to strongly alkaline. The alluvial soils have loam or fine sandy loam textures. Most of the WSA consists of duneland formed from eolian sands and alluvium derived from sandstone and igneous rock. Wind erosion formed the duneland portion of this WSA. Approximately 2,379 acres (26 percent) of the WSA are in slight erosion condition class with approximately 6,771 acres (74 percent) in moderate. Table 2 summarizes soil erosion conditions for the entire WSA. Erosion condition classes were determined using soil surface factors (terms are defined in the Glossary).

**TABLE 2**
**Erosion Condition**

| Classification | Annual Soil Loss per Acre (cubic yard/acre) | Acres | Percent of WSA | Total Annual Soil Loss for WSA (cubic yard) |
|---|---|---|---|---|
| Severe | 5.4 | 0 | 0 | 0 |
| Critical | 2.7 | 0 | 0 | 0 |
| Moderate | 1.3 | 6,771 | 74 | 8,802 |
| Slight | 0.6 | 2,379 | 26 | 1,427 |
| Stable | 0.3 | 0 | 0 | 0 |
| Total | | 9,150 | 100 | 10,229 |

Sources: USDI, BLM, 1974; Leifeste, 1978.

### Vegetation

The Rockwell WSA is primarily sand with both stabilized and active dunes. There is no riparian vegetation within the Rockwell WSA. The sand substrate provides habitat for psammophytes (sand-loving plants), one of which is unusual and restricted to this area. The plant is a giant diploid form of fourwing saltbush, *Atriplex canescens*, that reaches more than 12 feet in height. Apparently this plant was widespread but, because of grazing pressure, it has retreated to the sand dune area (Stutz, 1974). Though this plant is of high interest to BLM and the scientific commun-

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## ROCKWELL WSA

| Resource | Alternatives | |
|---|---|---|
| | No Action (Proposed Action) | All Wilderness (9,150 Acres) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, 1 million tons of lead and zinc, 500 tons of tungsten, and 500 tons of uranium oxide. Geothermal energy could possibly also be developed. | Oil, gas, and geothermal potential likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. |
| Wildlife | About 2 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. |
| Livestock | Grazing of 212 AUMs would continue. | Grazing of 212 AUMs would continue. Little effect on grazing management is expected. Any developments proposed in the future might not be allowed. |
| Visual Resources | The quality of visual resources could be impaired on up to 212 acres. | Visual quality could be impaired on up to 46 acres. |
| Recreation | The WSA is currently closed to recreational ORV use. Overall recreational use could increase from the present 3,960 visitor days per year to 5,780 over the next 20 years. Up to 212 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA would remain closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. |
| Wilderness Values | Wilderness values could be lost on up to 212 acres (2 percent of the WSA), but the values in the rest of the WSA would probably not be affected. | Wilderness values would be protected, except on up to 46 acres (0.5 percent of the WSA) which may be disturbed under development of valid mineral rights. Approximately 46 percent of the WSA does not meet the criteria for outstanding opportunities for solitude or primitive and unconfined recreation. |
| Land Use Plans and Controls | This alternative would be consistent with Juab County's concept of multiple use, State of Utah plans and policies, and the current BLM Tintic MFP. | This alternative would not be consistent with Juab County's concept of multiple use. Designation would constitute amendment of the BLM Tintic MFP. |
| Socio-economics | Annual local sales of less than $24,076 and Federal revenues of up to $10,974 would continue. Up to $16,773 per year in Federal revenues would be lost as oil and gas leases on 5,591 acres would expire and would not be reissued to meet oil and gas category restrictions. | Annual local sales of less than $24,076 and Federal revenues of up to $297 would continue, but potential Federal revenues of up to $27,450 from mineral leasing would be foregone. This would be a loss of $10,667 per year more than with the No Action Alternative. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. |

ity, it has been given no status under the Endangered Species Act. Existing vegetation is summarized in Table 3.

**TABLE 3**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Juniper | 4,758 | 52 |
| Saltbush-greasewood | 2,196 | 24 |
| Sagebrush | 2,196 | 24 |

Source: USDI, BLM, 1978.

The Rockwell WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types for the WSA are listed on Table 4. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

According to Welsh (1979) and herbarium records, there are no threatened, endangered, or sensitive plant species within the Rockwell WSA.

**TABLE 4**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Great Basin sagebrush | 6,405 | 70 |
| Saltbush-greasewood | 2,745 | 30 |

Source: USDI, Geological Survey, 1978.

## Water Resources

There is no surface or developed ground water available within this WSA. Cherry Creek, a perennial stream, is 2 to 3 miles north of the WSA. Quantity and quality of ground water in the WSA are unknown.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

An overall importance rating (OIR) of 1 was assigned to the Rockwell WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The energy and mineral resource rating summary is given in Table 5.

**TABLE 5**
**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic ft. of gas |
| Uranium | f2 | c1 | Less than 500 tons of uranium oxide |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c2 | Low temperature resource |
| Hydropower | f1 | c4 | None |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f4 | c1 | Greater than 1 million tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1]Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).
[2]Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian

needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, tungsten, and zinc that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

## LEASABLE MINERALS

There are no known occurrences of leasable minerals in the Rockwell WSA.

### Oil and Gas

The entire 9,150 acres are currently covered by post-FLPMA oil and gas leases. Currently, oil and gas are the only such minerals of interest, and activity for these has been limited to leasing. No known exploration has occurred inside the WSA, although such activity has taken place nearby. Most of this has been in the form of seismic work.

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

Approximate acreages of present oil and gas leasing categories in the WSA are: Category 1 (standard stipulations), 3,559 acres; and Category 4 (closed to leasing), 5,591 acres.

The favorability for oil and gas occurrence in the WSA is considered low. Structural complexity and misinterpretation of data have thus far limited Basin and Range petroleum discoveries. Recently, however, a greater understanding of structure has been attained by extensive drilling in the Eagle Springs, Nevada field. This represents the closest Basin and Range petroleum field to the WSA. Although this field has produced since 1954, no associated discoveries were made here for 22 years. Since extensive drilling and improved interpretation began in the early 1970s, an additional producing field (Trap Springs Field) was discovered less than 6 miles away. Even among currently producing wells, dry holes are common. This gives an indication of the complex and local nature of Basin and Range structure. Petroleum reservoirs here are not usually found as giant fields, but rather as relatively small pockets. For this analysis, it is estimated that up to 3 million barrels of oil and up to 18 billion cubic feet of gas could be recoverable from the WSA (refer to Appendix 9).

Currently, industry interest in oil and gas is focused mainly on those areas of the overthrust belt not affected by Basin and Range block-faulting. Until this situation changes and extensive exploration is conducted, there will be little explicit data on which to rate oil and gas potentials. Presently, parameters such as structure and lithology must be used to estimate such potential. By using geological information and inference, however, a determination can be made concerning the past and present favorability for petroleum occurrence.

### Geothermal

The favorability for a low temperature geothermal resource in the WSA is low to moderate. There are no existing geothermal leases.

## LOCATABLE MINERALS

There are no known occurrences of locatable minerals inside the Rockwell WSA. There are 36 claims totaling approximately 1,040 acres. In addition, there are several claims to the immediate south of the WSA (Township 13 South, Range 5 West, Sections 29 and 30). The outcrops that comprise these claims overlap the WSA boundary (Section 29). Therefore, the possibility exists for a logical mining progression into the WSA in association with these claims. No known exploration has occurred inside the WSA, although such activities have taken place nearby. No known production has resulted from any of this work.

### Lead and Zinc

The entire WSA lies within the Deer Creek-Tintic

Mineral Belt. Ninety-five percent of all gold, silver, copper, lead, and zinc production in Utah has come from three such belts. Primary ores of lead and zinc commonly occur as the sulfide minerals galena (lead sulfide) and sphalerite (zinc sulfide), and the ores usually contain silver, some copper, and minor amounts of gold. In the Tintic district, located only a few miles northeast of the Rockwell WSA, the lead and zinc ores occur primarily as irregular replacement deposits in calcareous rocks of Paleozoic Age that are folded, faulted, and intruded by monzonite and quartz monzonite. The ore bodies occur in linear zones that are laterally continuous across faults and across strata.

The Rockwell WSA contains favorable carbonate host rocks for lead and zinc, but occurrences are not reported from the tract's few exposures of bedrock. On the bases of the nearby large occurrences at Tintic, the WSA may contain favorable rocks for lead and zinc at depth. Despite the WSA's estimated favorability for lead and zinc and other minerals evaluated for the WSA, very little bedrock is exposed. The costs associated with deep exploration in this area seem to outweigh the importance of the WSA as a potential target area for industry exploration in the future. In addition, the WSA is very small (SAI, 1982).

#### Beryllium

Beryllium minerals have been discovered in parts of west-central Utah, particularly in Tooele and Juab Counties, and in the Mineral Range in Beaver County. These deposits occur chiefly in beryl-bearing pegmatites, as beryl rosettes in granite, and in fine and course-grained veins. West-central Utah lies at the east end of a beryllium-rich province that extends as far west as central Nevada. The Rockwell WSA lies in a region that is broadly favorable for beryllium, although these deposits are not known to occur in or near the WSA (SAI, 1982).

#### Tungsten

Tungsten production, reserves, and resources in Utah are comparatively small. Most of the 21 reported deposits occur along the metamorphosed contact between granite and limestone, but tungsten-bearing quartz veins are reported from the Tushar Mountains south of the Rockwell WSA. At the south end of the Sheeprock Mountains in the Tintic District, the Tintic Western Mine (also known as the Desert Tungsten Mine) produced 7,198 tons of tungsten ore. The WSA lies within a region that is broadly favorable for tungsten; however, the probability that tungsten occurs at depth in the WSA is low (SAI, 1982).

#### Uranium

There has been no activity concerning uranium in the area; however, the potential exists due to thrusting relationships. That is, thrust-faulted Mesozoic strata may underlie the area. If so, it would raise the possibility of the Chinle (Triassic) and/or Morrison (Jurassic) Formations occurring there. Around 95 percent of Utah's uranium production has come from these two Formations. The probability of recovering uranium from the WSA is low.

#### SALABLE MINERALS

Salable minerals occur in quantity inside the WSA. Low prices, high transportation costs, and large statewide reserves, however, usually limit these materials to local markets. No use of salable minerals from within the WSA is presently occurring nor is any demand for salable mineral use from the WSA foreseen.

## Wildlife

The Rockwell WSA provides habitat for a variety of animal species. There are 48 species of mammals, 115 species of birds, 15 species of reptiles, and one amphibian species that may inhabit the area at different times of the year. Although a great diversity exists, no one species can be considered abundant. It is estimated that 50 mule deer migrate into the WSA during the winter and five antelope inhabit the area year-round.

There is one endangered (bald eagle) and one sensitive (golden eagle) species that could inhabit the WSA. Although there is no Federally designated critical habitat in the WSA, the area is considered crucial yearlong habitat for golden eagle.

This area is not managed under a detailed wildlife habitat management plan. There are no habitat improvement projects within the WSA boundary, nor are any planned.

## Forest Resources

There are approximately 9,150 acres in this WSA with 4,758 acres of juniper woodland. Potential production estimates for this acreage are approximately 19,000 cords of firewood and approximately 3,000 juniper posts. However, the WSA, as part of the proposed Rockwell Natural Area, has a management restriction of no woodland harvest.

There is no sign of recent harvest of woodland products. There is some indication of juniper posts being cut several years ago. Forest resour-

ces of similar quality are found in abundance in close proximity to the WSA.

## Livestock and Wild Horses/Burros

The WSA comprises 25 percent of the McIntyre cattle allotment, utilized by one rancher. Of the 1,125 AUMs within the allotment, the WSA contains 212 AUMs. Most of the AUMs are in the northern part of the WSA. Due to the ORV closure, any livestock tending is not motorized. Drifting sand and lack of water minimize the use of this area. There are no present or proposed range developments in the WSA.

There are no wild horses or burros in the WSA.

## Visual Resources

The Rockwell WSA is a unique combination of free-moving, open sand dunes, juniper-covered hills, sagebrush, and grass flats. Old dead juniper trees and the ever-changing shadow effects on the dunes provide a variety of interesting visual settings.

The free-moving sand dunes form 29 percent (2,654 acres) of the WSA. Their scarcity, uniqueness, interesting form, and color classify as Class A scenery (outstanding quality) and VRM Class II management goals allow that activities may be apparent but subordinate to the landscape character.

The remaining 71 percent (6,496 acres) of the WSA is rated as Class C scenery (average to poor quality) due to low-rolling juniper-covered hills, sagebrush, and grass-covered flats similar to adjoining landscapes. Forty-five percent of this area (2,924 acres) is rated as VRM Class III due to its proximity to the heavy use areas of Little Sahara and subsequent high sensitivity. The remainder (3,572 acres) is classified as VRM Class IV (activities may be dominant in the landscape) due to the low sensitivity of this more remote northwestern segment. Refer to Appendix 7 for a description of BLM's VRM system.

## Cultural Resources

The only historical feature of note is the namesake of the WSA. The WSA is named for the Rockwell Ranch that lies about 2 miles outside the northwestern edge of the WSA. This ranch is associated with Orin Porter Rockwell, who was a bodyguard for Brigham Young. The Rockwell WSA was probably grazed in conjunction with the ranch. The old Rockwell ranch house, barns, and corrals lie northwest of the WSA.

There are no prehistoric or historic sites recorded in the WSA. The potential for finding small temporary sites reflecting Fremont use of the wild food resources in the area is good. There is also some potential for finding Early Man sites in the sand dunes reflecting use of the area when the climate and topography were very different.

## Recreation

The Rockwell WSA coincides with the boundaries of the Rockwell Natural Area (minus 480 acres), comprising 17 percent of the 60,000-acre Little Sahara Recreation Area.

Most of the visitors to Little Sahara Recreation Area (approximately 396,000 visitor days annually) originate from population centers along the Wasatch Front (Ogden, Salt Lake City, Orem, and Provo). Recreationists participate in a wide variety of activities during their visits to the Little Sahara Recreation Area, but some form of motorized recreation is the primary focus for a majority of the users. The focus of nearly two-thirds of the recreationists in Little Sahara is either off-road driving or motorcycling, although visits frequently include other activities such as camping, hiking, photography, or wildlife viewing and nature study.

The northwestern portion of Little Sahara has been left natural as the Rockwell Natural Area. Although smaller than the ORV area, the Rockwell Natural Area contains the same terrain types including sand dunes, juniper-covered hills, and sagebrush flats. However, no vehicles are allowed. Animal and plant species are protected. The area designated as the Rockwell Natural Area has traditionally received less than 1 percent (3,960 visitor days annually) of the total recreation use of the Little Sahara Recreation Area.

Twelve primitive and unconfined types of recreation were found to be present in the WSA. Nature study and photography opportunities are very good, primarily due to the presence of unique sand dunes and the accompanying wildlife and vegetation ecosystem. Although available, opportunities for backpacking, camping, dayhiking, horseback riding, hunting, rock climbing, cultural sightseeing, geologic sightseeing, scenic vistas, and wildlife sightseeing are not good due to the small size and configuration of the WSA, lack of water, flat terrain, lack of destination points, and lack of significant features that could be expected to attract participants.

The largest living and dead juniper trees (*Juniperus osteosperma*), growing in the Little Sahara dunes are located within the WSA. These picturesque trees, the unusual *Atriplex* species, and other forms of plant and animal life existing in a natural state in the sand dune environment combine to provide outstanding opportunities for scientific, educational, and recreational uses. Elementary, high school, and university groups visit the area to observe these resources existing in a natural state within this unique sand dune environment.

## Wilderness Values

### SIZE

This WSA is 9,150 acres in size. It is approximately 5 miles long and 4 miles wide at its widest point.

### NATURALNESS

The only intrusion within the WSA is a vehicular way of approximately 1 mile which penetrates from the north. It is substantially unnoticeable. Essentially all of the 9,150 acres are considered to be in a natural condition.

### SOLITUDE

Opportunities to find solitude within the WSA are influenced by size, topography, vegetation, and outside sights and sounds. The WSA is relatively small (2 to 4 miles wide by 5 miles long). Topography ranges from flat terrain on the west to rolling sand hills in the central portion and low-rolling sand dunes on the east. Vegetation consists of low-desert shrub on the flats, scattered juniper trees, and sagebrush on the rolling hills and little vegetation on the sand dunes. Several motorcycle races are held throughout the year adjacent to the area with race courses bordering all sides of the WSA. Considerable ORV use takes place at Sand Mountain and near Jericho and White Sands Campgrounds, which are located 1 to 2 miles to the south and east. The lack of topographic and vegetation screening on the west and east sides in conjunction with the adjacent motorized recreation activities make the WSA's opportunities for solitude less than outstanding on approximately 4,206 acres (46 percent). The juniper-covered rolling sand hills in the central portion of the WSA do provide sufficient topographic and vegetation screening and are far enough removed from the motorized vehicular activity to provide outstanding opportunities for solitude which meet the wilderness characteristics criteria on approximately 5,044 acres.

### PRIMITIVE AND UNCONFINED RECREATION

Opportunities for primitive, unconfined recreation were evaluated by considering the number of recreational opportunities present and the quality of these opportunities.

This WSA was determined to have opportunities for 12 activities related to primitive, unconfined recreation. Nature study and photography were determined to be outstanding in quality. All other activities were less than outstanding. The overall quality of the opportunities for primitive, unconfined recreation within the WSA meets the standards set by the *Wilderness Act*; approximately 54 percent (4,945 acres) of the WSA offers outstanding opportunities for recreation while approximately 46 percent (4,206 acres) of the WSA does not.

### SPECIAL FEATURES

The special features noted in the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980) as supplemental values were old gnarled junipers, drifting sand dunes, and a unique plant type (a diploid form of *Atriplex canescens).*

The *Atriplex canescens*, or diploid four-wing saltbush, found in the WSA seems to be the last remaining relic of a variety that was once widespread. The species is of high interest to the scientific community and BLM. Its only known concentration at the present time is on the free-moving sand dunes of the Little Sahara Recreation Area. There are approximately 2,654 acres of free-moving dunes within the WSA with pockets of *Atriplex canescens* throughout the dunes. Protection of this species is a major reason for existing management of the WSA as a Natural Area.

Old gnarled junipers are interspersed throughout the 5,200 acres of juniper woodlands within the WSA.

## Land Use Plans and Controls

No State or private lands are within the WSA. There are no rights-of-way within the WSA nor are there any applications pending. No other surface rights have been granted.

Juab County does not have a current master plan but has nearly completed a plan that does not specifically address wilderness. The county generally prefers multiple use, the concept being that open spaces be used for many purposes on public lands (Fawcett, 1985).

The current BLM land use plans for the WSA are the Tintic Planning Unit MFP (USDI, BLM, 1975)

and the Little Sahara Recreation Area Management Plan (USDI, BLM, 1979). The Tintic MFP has not been reviewed by the Governor of the State of Utah for consistency with State plans and policies. It will be replaced by the House Range RMP scheduled for completion in 1986. The Tintic Mountain MFP and the Little Sahara Recreation Area Management Plan designate the Rockwell WSA as a natural area with allowable uses as identified in the Description of the No Action Alternative.

## Socioeconomics

The Rockwell WSA is located in Juab County, Utah. Although many visitors to the WSA originate from the Wasatch Front communities more than 50 miles to the northeast or in Delta about 25 miles to the south, any noticeable socioeconomic conditions are related to Juab County.

### DEMOGRAPHICS

Census figures for 1980 show a Juab County population of 5,530 (an increase of 20.9 percent since 1970). Nephi (3,285) is the largest community in Juab County.

### EMPLOYMENT

The government (Federal, State, and local) and trade sectors are the most important in terms of employment in the Juab County economy. Farm employment makes up about 14 percent of the total employment in Juab County. Table 6 presents first quarter 1982 employment figures for the county.

**TABLE 6**
**1982 Nonfarm Employment Figures**
**Juab County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 91 | 5.7 |
| Construction | 112 | 7.0 |
| Manufacturing | 313 | 19.5 |
| Transportation, Communication, and Public Utilities | 39 | 2.4 |
| Trade | 385 | 23.9 |
| Finance, Insurance and Real Estate | 40 | 2.5 |
| Services | 199 | 12.4 |
| Total Federal, State, and Local Government | 427 | 26.6 |
| Total | 1,606 | 100.0 |

Source: Utah Department of Employment Security, 1982.

### INCOME AND REVENUES

Economic-related activities in the WSA include mineral exploration, livestock production, and recreation. Table 7 presents 1982 personal income and earnings for Juab County, and Table 8 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 7**
**1980 Employment Income and Earnings**
**Juab County, Utah**

| Type/Source | Earnings Income (in $1,000) | Growth Rate 1977-82 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 19,779 | 37.5 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 483 | -15.1 |
| Nonfarm | 19,296 | 39.7 |
| Private | 13,814 | 30.7 |
| Agriculture Service and Other | 88 | 1.1 |
| Mining | 1,150 | (D) |
| Construction | 2,727 | (D) |
| Manufacturing | 3,308 | -35.3 |
| Transportation and Public Utilities | 810 | 10.7 |
| Wholesale Trade | 1,023 | 77.3 |
| Retail Trade | 2,676 | 15.6 |
| Finance, Insurance and Real Estate | 648 | 90.0 |
| Services | 1,384 | 17.0 |
| Government | 5,482 | 68.9 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 1984.

(D) Not shown to avoid disclosure of confidential information or for items $50,000 or less. Data are included in totals.

**TABLE 8**
**Local Sales And Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $27,450 |
| Mining Claim Assessment | Less than $3,600 | None |
| Livestock Grazing | $4,240 | $297 |
| Recreational Use | Less than $16,236 | None |
| Total | Less than $24,076 | Up to $27,747 |

Sources: BLM File Data; Appendix 9.

[1]Local sales represent money potentially spent. They do not account for the total income that would be generated by these expenditures.

The WSA has 36 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all claims are current in assessment.

Currently the WSA provides 212 AUMs of forage to local livestock operators each year. At the current BLM price of $1.40 per AUM, the WSA accounts for $297 in Federal grazing revenue annually. Marketing of livestock which use the WSA contributes to local income. About $4,240 of livestock sales, including $1,060 in ranchers' return on investment and labor, is attributed to the AUMs in the WSA.

Oil and gas leases in the WSA cover the entire 9,150 acres. At $3 per acre, lease rental fees generate up to $27,450 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these Federal revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

The WSA's nonmotorized recreational use is relatively high due to influences of the other portions of the Little Sahara Recreation Area. Motorized recreational use in the WSA is not allowed. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced (Dalton, 1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Rockwell WSA is estimated as about 3,960 visitor days per year resulting in a total estimated expenditure of $16,236. Only a portion of the expenditures for recreational use of the WSA contributes to the local economy of Juab County.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements of all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative (Proposed Action)

The major changes that could occur in the area (although the likelihood is thought to be extremely low) would be related to oil and gas and locatable mineral exploration and development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown, but probably would be low due to the overall low resource potential of the WSA. The following is a worst-case analysis based on the assumption that minerals would be developed sometime in the future and cause the following disturbance: oil and gas, 160 acres; uranium, 20 acres; beryllium, 13 acres; tungsten and lead/zinc, 13 acres; and geothermal, 6 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed as a PSD Class II area. Disturbance of 212 acres from mineral-related exploration and development

within the WSA would result in minor temporary increases in fugitive dust emissions but would have no significant long-term effect on air quality in the WSA. However, IPP, now under construction, is expected at times (dependent on meteorological conditions) to result in degradation of air quality up to Class II limitations. This could impair visibility within the WSA because of atmospheric discoloration from plant stack discharge.

### GEOLOGY

Little impact to geology is expected because disturbances associated with oil and gas and geothermal exploration and locatable minerals (i.e., uranium, beryllium, tungsten, lead/zinc) exploration activities would probably not exceed 212 acres and would involve mainly surface development or widely spaced wells.

### SOILS

It is estimated that up to 212 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur in areas with moderate erosion class (worst-case analysis) and that erosion condition would increase one class, soil loss on the 212 acres would increase from 276 cubic yards/year to 572 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 296 cubic yards over the current annual soil loss to approximately 10,525 cubic yards per year.

### VEGETATION

Although pro active measures would be taken to avoid disturbance of *Atriplex canescens*, some individual plants could be inadvertently lost as a result of mineral exploration and development. However, because of protective measures and because possible disturbance under this alternative would be no more than 212 acres, the impact would not result in a threat to the existence of the above-mentioned species in the area nor would it cause a major change in any vegetation type. No threatened or endangered plant species would be affected as there are none known to be in the area.

### WATER RESOURCES

Since precipitation is low and there are no streams within the WSA, no significant sedimentation or change in TDS is expected to occur from the 296 cubic yards of annual soil loss from mineral-related surface disturbance. Although limited opportunities exist under this alternative for the development of water-related improvements, none are planned in the current MFP nor is any future need foreseen.

Mineral exploration and development in the area would generally be confined at or near the surface or with widely spaced wells and would not significantly change ground water quantity or quality.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

The potential for less than 10 million barrels of oil and less than 60 billion cubic feet of natural gas (in-place) exists within the WSA, with less than 3 million barrels of oil and 18 billion cubic feet of gas considered recoverable. A low temperature geothermal resource is considered recoverable. Existing oil and gas leases could be explored and developed without concern for wilderness values. If the existing leases expire without development, new leases subject to leasing Category 1 (standard stipulations) could be issued on 3,559 acres and exploration and development could occur. However, the remainder of the area would be closed to future leasing and no exploration or development would occur on 5,591 acres. Due to low resource potentials and large acreage closed to leasing, production is not expected under this alternative.

#### Locatable Minerals

The entire WSA would remain open to mining claim location. Use of unnecessary or undue degradation stipulations would not affect the ability to recover minerals in the area. However, the likelihood of development is thought to be low because of economic considerations (e.g., depth of potential deposits, etc.).

### WILDLIFE

The Natural Area designation would assist in preserving wildlife values including the crucial yearlong habitat for golden eagle in most of the WSA, as would the 5,591-acre closure to new oil and gas leasing, the ORV closure in the entire WSA, and management under VRM Class II on 2,650 acres of the WSA. However, disturbance of as much as 212 acres (2.3 percent of the WSA) through mineral and energy exploration and development would disrupt wildlife. Mobile animals, including bald and golden eagles, would be dispersed from the disturbed areas for the lifetime of these activities. Less mobile wildlife would either perish or coexist with these disturb-

ances at smaller and less viable population levels. Prior to authorizing surface disturbing activities, the BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy (refer to Appendix 4). If the activity could jeopardize the continued existence of the bald eagle, formal Section 7 consultation would be initiated under provisions of the Endangered Species Act. Appropriate mitigative measures would be applied. The conclusion can, therefore, be made that this alternative would have little effect on the bald or golden eagle.

Vegetation manipulation projects or water developments to benefit wildlife would be allowable under this alternative, although no need for such improvements has been identified and it is unlikely that any improvements would ever be developed for wildlife in this WSA.

### FOREST RESOURCES

Under this alternative the entire WSA would continue to be closed to woodland harvest. Utilization of as much as 19,000 cords of firewood and approximately 3,000 juniper posts would be foregone. The impact is considered minimal because forest resources of similar quality are found in abundance in close proximity to the WSA, and no forest product use has been established in the WSA.

### LIVESTOCK

There would be no change in or effect on current livestock use (212 AUMs) and management under this alternative. Livestock use would continue to be confined to the northern margins of the WSA due to drifting sand and lack of water. Because of the ORV closure, any livestock tending by the one livestock operator would continue to be nonmotorized. Although developments to benefit livestock would be allowed without regard for wilderness values, none are planned or likely to be planned in the future.

### VISUAL RESOURCES

Under this alternative, visual quality in the WSA would be somewhat protected by limitations placed on potential surface-disturbing activities (i.e., the entire area would remain closed to ORV use, 5,591 acres would be closed to new oil and gas leasing, and 2,654 acres would be managed under VRM Class II objectives).

However, under this alternative 212 acres of mineral-related exploration and development are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in VRM Class II areas during the short term. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worse-case analysis), visual quality could be significantly reduced in the WSA as a whole.

### CULTURAL RESOURCES

Cultural values (there are potential sites but no known sites) would benefit from management of the area as a Natural Area, including continuation of the ORV closure over the entire area and the oil and gas leasing closure on 5,591 acres.

Disturbance of up to 212 acres by mineral exploration and development could inadvertently destroy cultural sites. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would lessen impacts. The overall effect on cultural resources would be low due to the limited amount of cultural values anticipated in the area and the mitigative measures that would be applied.

The general area will continue to receive high recreational pressures. Primitive-type recreation will continue within the WSA, and an increase in use could result in increased potential for any vandalism. However, vandalism of cultural sites in the WSA is not currently a problem nor is it expected under this alternative due to the limited cultural values and the current ORV closure limiting access in the WSA. The Rockwell Ranch on private land outside the WSA will continue to be subjected to visitor pressures, although vandalism has not been documented.

### RECREATION

Primitive recreational values of the WSA would be protected by management of the area as a Natural Area, including contination of the ORV closure over the entire area and the oil and gas leasing closure on 5,591 acres.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative mineral-related exploration and development are possible on 212 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether.

The area would continue to be closed to ORV use and would, therefore, be unavailable to all but

primitive-type recreational uses. However, opportunities for ORV use and other recreational activities are amply supplied in the area surrounding the WSA.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 3,960 current visitor days per year to 5,780 visitor days at the end of 20 years. All of this would be primitive (nonvehicle-related) recreational use including hiking, photography, and nature study.

### WILDERNESS VALUES

Under this alternative, wilderness characteristics in the WSA would be somewhat protected by limitations placed on potential surface-disturbing activities (i.e., the entire area would remain closed to ORV use, 5,591 acres would be closed to oil and gas leasing, and 2,654 acres would be managed under VRM Class II objectives).

However, under this alternative 212 acres of mineral exploration and development are possible. The related surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways and drill pads are located throughout the area (worst-case analysis); however, it is likely that such features would not be located in the 2,654 acres of active sand dunes.

### LAND USE PLANS AND CONTROLS

The No Action Alternative would not change the present or expected use of the lands within the WSA, and would generally conform to the multiple-use concept of the *Juab County Master Plan*. The 5,591-acre closure to new oil and gas leasing is not consistent with the County's multiple-use concept. Except for the oil and gas leasing closure, this alternative would be consistent with the State of Utah plans and policies which emphasize economic return. This alternative would be in conformance with the Little Sahara Recreation Area Management Plan and with the Tintic Planning Unit MFP.

### SOCIOECONOMICS

Future growth in the economy of Juab County is expected to continue following the patterns of recent years, including growth resulting from IPP (located about 2 miles to the south of Juab County). Based on this assumption, the Utah Office of the State Planning Coordinator (1980) projects that the government sectors of Juab County would not expand greatly beyond the current size while the retail trade, manufacturing, and services sectors would continue to grow at a relatively stable rate through the year 2000.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain on existing leases and mining claims. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development of minerals within the WSA is low.

Oil and gas leases on 3,559 acres of the WSA would probably be reissued following the expiration of current leases. This would result in the continuation of up to $3.00 per acre annual Federal revenues on the leased acreage. However, 5,591 acres would be closed to new leasing resulting in a loss of up to $16,773 in annual Federal revenues presently attributed to leasing on this acreage. This revenue is not directly available to the local sector; therefore, no impact would occur to the local economy. Should mineral development actually occur in the Rockwell WSA in the future, an unknown amount of increase could occur in local income; however, this likelihood is considered low.

There would be no livestock-related economic losses because the existing grazing use (212 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce 4,240 annually in livestock sales and 1,060 of ranchers' return to labor and investment.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Recreational use in the area is estimated to increase by an estimated 1,820 visitor days per year over the next 20 years, and overall recreation-related expenditures average $4.10 per visitor day for a total increase of $7,462. Since only a portion of this would contribute to the local economy, recreation-related expenditures attributable to the WSA would not be significant to the Juab County economy.

Overall, no changes in existing patterns or trends of population or distribution of local employment income would be expected.

## All Wilderness Alternative (9,150 Acres)

As noted in the Description of the Alternatives section, the major changes that could occur in the 9,150-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). Approximately 1 mile of existing vehicular ways in the WSA would continue to be closed to vehicular use except for approvals by BLM as cited in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 46 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities, and that oil and gas leases would not be renewed or future leasing of oil and gas allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas would be smaller than under the No Action Alternative (46 vs. 212 acres), the impacts from development and surface disturbance on air quality, geology, and cultural resources would be less for the All Wilderness Alternative than those described for the No Action Alternative. Wilderness designation would provide additional protection to these resources. Because the analysis of the No Action Alternative shows that impacts to these resources would be insignificant, they are not discussed under the All Wilderness Alternative. Other resources are addressed below.

### SOILS

The soil resource could slightly benefit under the All Wilderness Alternative because of the reduced likelihood of surface-disturbing activities. Assuming that all disturbance would occur in areas with moderate erosion class (worst-case analysis) and that erosion condition would increase one class, soil loss on the 46 acres would increase from 60 cubic yards/year to 124 cubic yards/year. However, soil loss would decrease as reclamation occurred. The time for complete reclamation cannot be determined. Therefore, under this alternative, maximum annual increase in soil loss from surface disturbance in the WSA would be about 64 cubic yards over the current annual soil loss to approximately 10,293 cubic yards/year. The increase would be 232 cubic yards/year less than under the No Action Alternative.

### VEGETATION

Vegetation would receive nearly complete protection with this alternative. Because the extent of possible surface disturbance would be less, the potential for inadvertent disturbance of *Atriplex canescens* would be less under this alternative.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

Although all of the WSA is under post-FLPMA oil and gas lease, no exploration or development of oil and gas is presently occurring within the WSA.

Existing post-FLPMA leases could be developed subject to the nonimpairment stipulations issued at the time of leasing. It is unlikely that existing leases would be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be reissued. Exploration for and development of a potential resource of less than 3 million barrels of oil and 18 billion cubic feet of natural gas considered recoverable would be foregone under this alternative.

The potential low temperature geothermal resource could not be developed under this alternative.

Due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas or geothermal recovery.

#### Locatable Minerals

Approximately 1,040 acres are under mining claims within the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case, the potential for recovery of less than 500 tons of uranium oxide, 10 tons of beryllium, 1 million tons of lead/zinc, and 500 tons of tungsten would be foregone. After designation, all other lands (including claims not determined valid) would be closed to prospecting and mining (USDI, BLM, 1981).

It is estimated that up to 46 acres could be disturbed due to exploration of locatable mineral resources with this alternative. Because production of these metals is not currently occurring and because economic considerations (e.g., depth of

potential deposits, etc.) are unfavorable, it is unlikely that development would occur. Therefore, this alternative would not result in a significant loss of recovery of locatable mineral resources on a local, regional, or national level.

### WILDLIFE

Because less possible surface disturbance would occur due to closing the entire WSA to mineral leasing and location, managing the entire area as VRM Class I, and continuing the ORV closure in the area, this alternative would be somewhat more effective than the No Action Alternative in preserving wildlife values, including the crucial yearlong habitat for golden eagle.

Disturbance of as much as 46 acres (.50 percent of the WSA as compared to 2.3 percent under the No Action Alternative) through mineral exploration and development would disrupt wildlife. Mobile animals, including bald and golden eagles, would be dispersed from the disturbed areas for the lifetime of these activities. Less mobile wildlife would either perish or coexist with these disturbances at smaller and less viable population levels. Because appropriate procedures and mitigation would be applied as described for the No Action Alternative, there would be little effect on bald or golden eagles.

Vegetation manipulation projects or water developments to benefit wildlife would not be developed under this alternative, but none are planned.

### FOREST RESOURCES

Under this alternative the entire WSA would continue to be closed to woodland harvest. The impact is the same as the No Action Alternative (i.e., utilization of as much as 19,000 cords of firewood and approximately 3,000 juniper posts would be foregone; however, resources of similar quality are found in abundance in close proximity to the WSA).

### LIVESTOCK

No changes in livestock grazing allocations or management practices are expected from this alternative because very little livestock use is made in this WSA (212 AUMs) and there are no future developments planned. Use of vehicles in conjunction with livestock management would not be affected since the area is already closed to ORV use.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through continuation of the ORV closure, and through closure of the entire area to future mineral leasing and location.

Under this alternative, the possible mineral-related surface disturbance associated with development of existing mining claims would be reduced from 212 to 46 acres. Although mitigative measures would be applied to minimize visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation, some permanent localized degradation could be expected. If roads for development of valid mining claims could not be denied (worst-case analysis), VRM Class I objectives might not be met on the south portion of the WSA. Because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole.

### RECREATION

Under this alternative, the area's primitive recreational values would receive more protection than under the No Action Alternative due to a reduction in potential surface disturbance through closure of the entire area to mineral leasing and location, management of the area as VRM Class I, and continuation of the ORV closure in the area.

Still, as much as 46 acres of surface disturbance could occur as a result of the exploration and development of existing mining claims. If roads for development of existing mining claims could not be denied, the quality of primitive recreational opportunities would be reduced in a portion of the area. Because the potential for mineral production is low and wilderness designation would reduce the potential for surface disturbance, the quality of the primitive recreational experience would likely be preserved in the area as a whole.

The area would continue to be closed to ORV use and would, therefore, be unavailable to all but primitive-type recreational uses. However, opportunities for ORV use and other recreational activities are amply supplied in the area surrounding the WSA.

Recreation use has been estimated at about 3,960 visitor days a year. As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wil-

derness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would address any need to control excessive increases in future recreation use, and even with the small size of the WSA, the quality of the primitive recreation experience probably would not be significantly affected by the increased use. Because the WSA already is closed to ORV use, there would be no impact to vehicle-related recreational activities.

### WILDERNESS VALUES

Wilderness designation would contribute to the preservation of the area's wilderness characteristics of size, naturalness, and outstanding opportunities for solitude and primitive recreation. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through continuation of the ORV closure, and through closure of the entire area to future mineral leasing and mining claim location. No development of oil and gas leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 212 acres to 46 acres for development of valid existing mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Because there are 1,040 acres (11 percent of the WSA) under mining claims, mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive, unconfined recreation on the affected areas. These values could be reduced in the area as a whole if roads to mining claims are built throughout the WSA. However, because the potential for mineral production is low and mitigation would be provided to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

### LAND USE PLANS AND CONTROLS

Although the *Juab County Master Plan* is not specific as to location, the county normally favors multiple use of most lands. This alternative is generally consistent with the county's multiple-use concept, since most existing resource uses would be allowed, although under more restrictive conditions. However, the closure to mineral leasing and location would not be consistent with the County's multiple-use concept. Although the action is not in conformance with the Tintic Planning Unit MFP, it is consistent with the uses allowed with the Little Sahara Recreation Area Management Plan because the area would be preserved for primitive uses and nature studies. The forthcoming House Range RMP will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of this WSA would constitute an amendment to the applicable BLM land use plan.

### SOCIOECONOMICS

Designation of this WSA as wilderness is not expected to result in any changes to existing patterns and trends of population, employment, and local income distribution.

There could be losses of $27,450 annually in Federal revenues currently provided by oil and gas leases in the WSA, because these leases would expire and would not be renewed.

Limitations on exploration and development of minerals would not alter existing local economic conditions, but could reduce future economic conditions a small, but unknown amount, compared to potential mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future new mining claims would be lost.

Livestock use and ranchers' income would continue as at present (refer to Table 8). No potential range improvements to generate increased livestock income have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use an unknown amount, but related local expenditures by recreationists would be small (average of $4.10 per visitor day statewide). Any increases in local income resulting from increased recreation use in the WSA likely would not be appreciably different than with the No Action Alternative.

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# Swasey Mountain WSA

# SWASEY MOUNTAIN WSA
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# SWASEY MOUNTAIN WSA
# (UT-050-061)

## INTRODUCTION

### General Description of the Area

The Swasey Mountain Wilderness Study Area (WSA) is located in the north end of the House Range, a 50-mile-long blockfaulted mountain range. The Swasey Mountains WSA consists of 49,500 acres of public land in northwestern Millard County, Utah. The WSA is located approximately 35 miles west of Delta, Utah. Major features include Swasey Mountain (elevation 9,669 feet), Tatow Knob (elevation 8,416 feet), several large caves, fossil beds, and wild horses. Although pinyon-juniper is the dominant vegetation, the high elevations allow for pockets of Douglas fir, white fir, limber pine, ponderosa pine, aspen, and bristlecone pine.

Climate is characterized by limited precipitation (12 to 20 inches annually), low relative humidity, and large annual and daily ranges in temperature.

Temperatures range from -14 degrees Farenheit (F) to 105 degrees F depending on season and elevation.

### Specific Issues Identified in Scoping

General issues pertaining to more than Swasey Mountain WSA are discussed in Volume I. Issues and concerns raised in the public scoping meetings (USDI, BLM, 1984c) and specific to Swasey Mountains are responded to below:

1. *Comment:* The occurrence of the sensitive plant species *Sclerocactus pubispinus* in or near this WSA should be considered in the decisionmaking process.

   *Response:* The BLM's policy is to manage any sensitive species as if it were designated by the Fish and Wildlife Service (FWS) as a threatened or endangered species. Therefore, this plant species would be protected under any of the alternatives. According to existing surveys, there are no threatened, endangered, or sensitive plant species within or near the boundaries of the WSA. However, measures to protect special species are discussed under the Vegetation section of the No Action Alternative in this document.

2. *Comment:* The Environmental Impact Statement (EIS) should analyze the potential for conflicts with spring and stockpond developments for livestock operations.

   *Response:* If designated wilderness, new rangeland developments would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources. (Refer to the Description of the Alternatives section and to all Livestock sections.)

3. *Comment:* The oil and gas potential of the WSA is ranked low and the mineral potential is ranked none to low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, industry representatives believe the potential of the WSA to be high for oil and gas, and at least moderate for minerals. This information should be considered in the Draft EIS.

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by private companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated from Detailed Study

During scoping, two comment letters were received suggesting that the boundary be revised to exclude existing mining claims at the north end

of the WSA. These two groups of mining claims total about 2,700 acres within the WSA. A new alternative to exclude this acreage was not analyzed in detail because overall impacts would not be appreciably different than the All Wilderness Alternative. Mining activities on valid existing mining claims would be allowed to continue with or without wilderness designation. The claims are noted in the Affected Environment, Mineral and Energy Resources section.

## Alternatives Analyzed

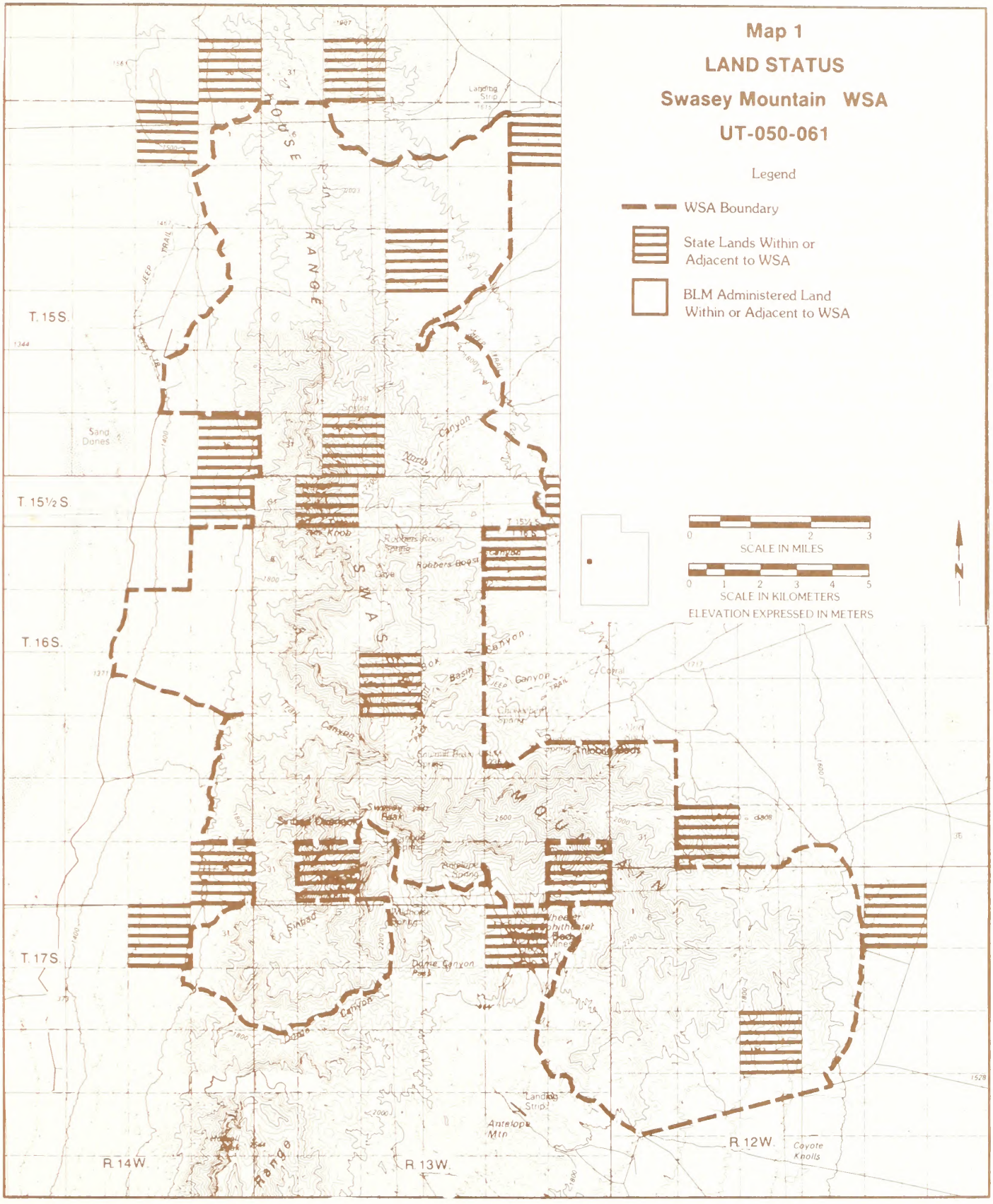
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (49,500 acres); and (3) Partial Wilderness (34,500 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 49,500-acre Swasey Mountain WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the Topaz Planning Unit Management Framework Plan (MFP) (USDI, BLM, 1973b) until it is superseded by the House Range Resource Area Resource Management Plan (RMP) scheduled for completion in 1986. The State land within the WSA (refer to Map 1) has not been identified in the MFP for special Federal acquisition through exchange or purchase. State lands are analyzed as remaining under State ownership. Refer to Volume I for further information on State inholdings.

The following are specific actions that would take place under this alternative:

- All 49,500 acres would remain open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on existing mining claims (2,871 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809) without wilderness considerations. Existing leases (46,300 acres oil and gas and 1,600 acres geothermal) and future leases could be developed under Category 1 (standard stipulations) on about 24,750 acres and Category 3 (no surface occupancy) on about 9,900 acres. Category 4 (no leasing) would be applied to about 14,850 acres. Overall, 11,786 acres of existing oil and gas leases would be phased out to meet Category 4 restrictions and 136 acres of unleased area could be leased for oil and gas resources. An additional 33,050 acres could be leased for geothermal resources.
- The present domestic livestock grazing use of the entire WSA would continue as authorized in the MFP (1,433 Animal Unit Months [AUMs]). Existing range improvements (five springs, 0.50 mile of fence, and 20 acres of seeding) could be maintained and utilized as at present, and new rangeland developments (one spring development) could be implemented without wilderness considerations.
- Developments for wildlife and other resources would be allowed without concern for wilderness values, if in conformance with the planning documents. One guzzler is currently planned.
- The 11 miles of ways, plus bordering and "cherry-stemmed" roads, would remain open for vehicular use in accordance with the Topaz MFP and subsequent planning documents. New access could be developed. The 49,500 acres would remain undesignated for off-road vehicle (ORV) use until completion of the House Range RMP, which may then limit such use in selected areas.
- The entire 49,500-acre area would continue to be open to woodland product harvest. There is no harvest of forest products at the present time, nor is any planned.
- The area would continue to be managed under Visual Resource Management (VRM) Class II (35,145 acres) and Class IV (14,355 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting would be allowed subject to applicable State and Federal laws and regulations.


Map 1
LAND STATUS
Swasey Mountain WSA
UT-050-061
Legend
WSA Boundary
State Lands Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 15 S.
T. 15½ S.
T. 16 S.
T. 17 S.
R. 14 W.
R. 13 W.
R. 12 W.
House Range
Swasey Mountain
Robbers Roost
Box Basin
Jeep Trail
Dome Canyon
Antelope Mtn
Coyote Knolls

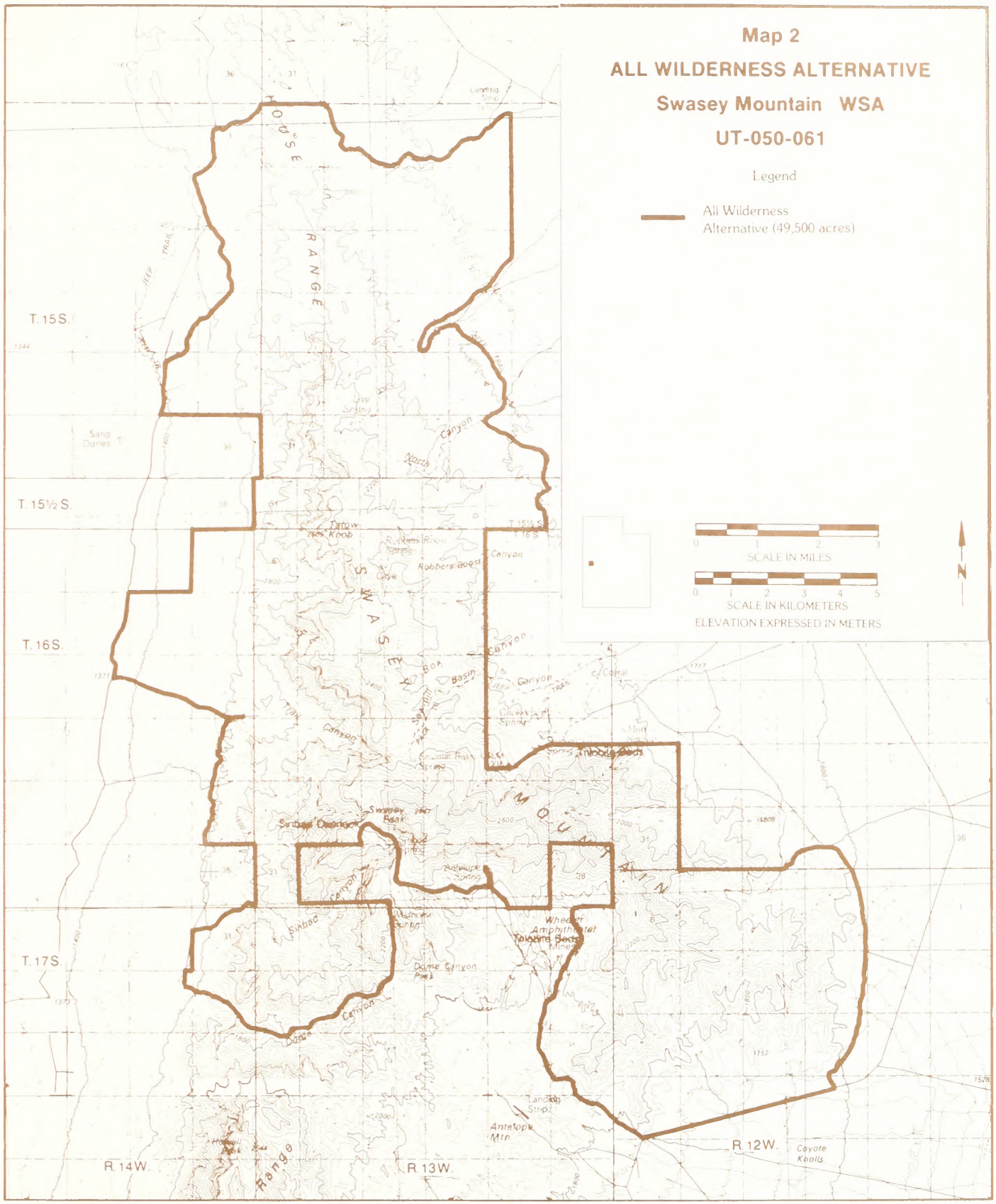
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 49,500 acres of the Swasey Mountain WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981b) to preserve its wilderness character. Upon designation, acquisition of five sections (or portions thereof) of State land (3,068.5 acres) within the WSA (refer to Map 1) is likely, and would be authorized by purchase or exchange. (Refer to Volume I for further information regarding State in-holdings). Seven of sixteen State sections (or parts thereof) adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 49,500 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on the portion of the approximately 2,871 acres of 112 existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with concern for wilderness values. Existing oil and gas leases involving 46,300 of the 49,500 acres and geothermal leases involving about 1,600 acres would be phased out upon expiration, unless a find of oil, gas, or geothermal resources in commercial quantities is shown.
- Present domestic livestock grazing would be allowed to continue as authorized in the Topaz MFP. The 1,433 AUMs on parts of four allotments in the WSA would remain available to livestock as presently allotted. After designation, existing developments (five springs, 0.50 mile of fence, and 20 acres of seeding) could be used and maintained in the same manner as in the past based on practical necessity and reasonableness. Subject to wilderness protection criteria, new rangeland developments would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources. It is assumed that the one spring development currently planned would be allowed if wilderness protection criteria are met (refer to Appendix 1). A herd of about 100 wild horses would continue to be allowed.
- New water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed after designation only if they would enhance wilderness values, correct conditions presenting imminent hazard to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No watershed treatments are presently planned.
- Wildlife transplants or habitat developments would be allowed after designation if compatible with wilderness values. Projects (none now exist) would be considered for approval on a case-by-case basis. One guzzler to provide water for antelope is planned, and would probably be allowed after designation as long as wilderness protection criteria are met (refer to Appendix 1).
- The entire 49,500-acre area would be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. About 11 miles of existing vehicular ways would not be available for vehicular use except as indicated above. About 25 miles of the WSA boundary intermittently follow existing gravel and dirt roads or jeep trails that would remain open to vehicular travel. Two short segments (.25 mile near Trail Canyon and .25 mile near Antelope Spring) would be "cherry-stemmed" and remain open to vehicular access. Access to the high country would continue to be allowed on the Sinbad Overlook road.
- A specific Wilderness Management Plan would be developed that would govern use


Map 2
ALL WILDERNESS ALTERNATIVE
Swasey Mountain WSA
UT-050-061
Legend
All Wilderness Alternative (49,500 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 15S.
T. 15½ S.
T. 16S.
T. 17S.
R. 14W.
R. 13W.
R. 12W.
HOUSE RANGE
SWASEY
Range
Sand Dunes
North Canyon
Tatow Knob
Robbers Roost Canyon
Box Basin
Jeep Trail
Swasey Peak
Spring
Sinbad Country
Dome Canyon
Pass
Wheeler Amphitheater
Tabernacle Dome
Mines
Landing Strip
Antelope Mtn.
Coyote Knolls

and protection of the 49,500-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads that are adjacent to or "cherry-stem" the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of the air space over the WSA.

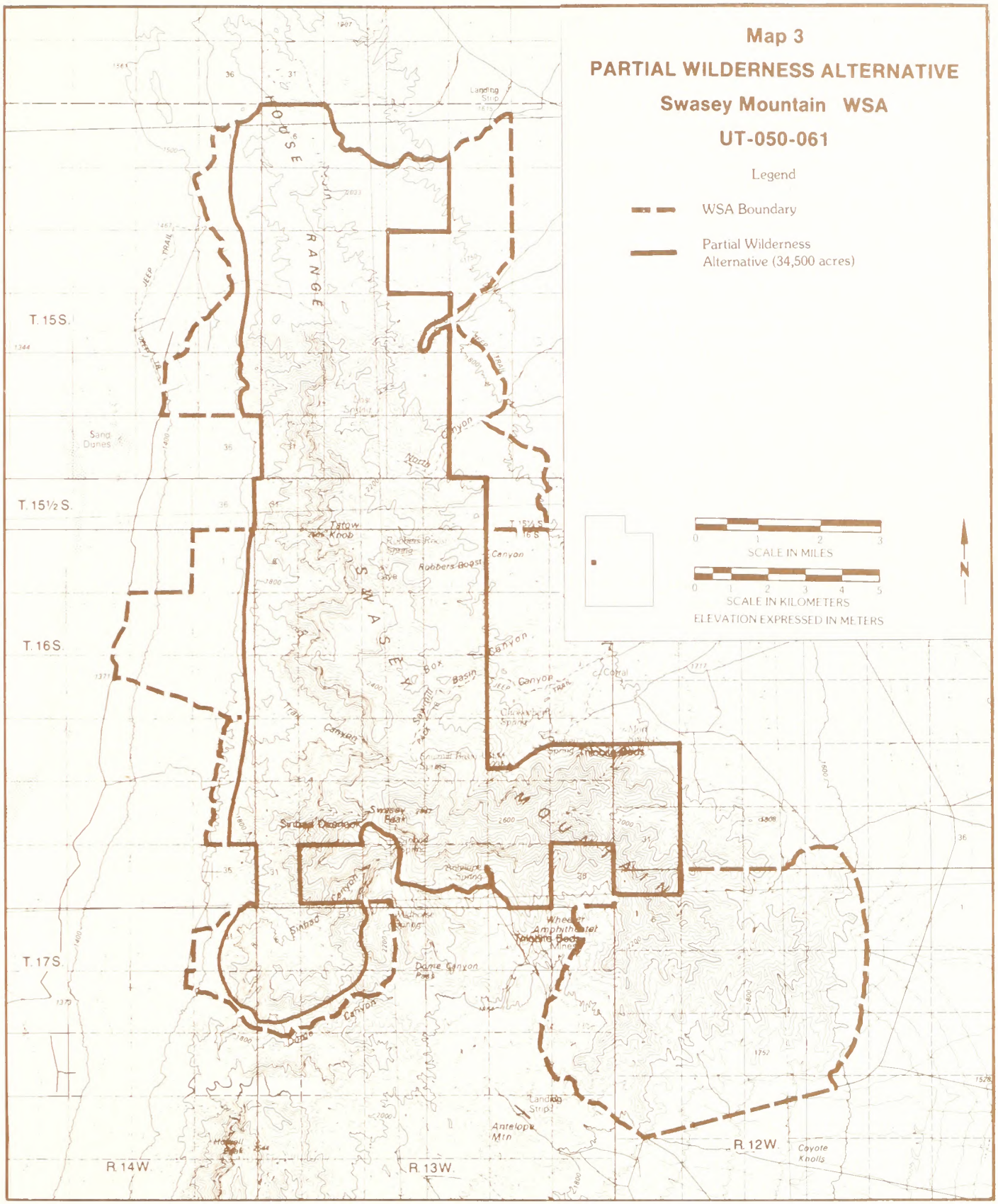
- Harvest of forest products would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is limited harvest of forest products (firewood, posts, and pine nuts) at the present time, but opportunity exists for an increase in such use if additional vehicular access were provided. The increased vehicular access for harvest of forest products would not be allowed with wilderness designation.
- Visual resources on 49,500 acres would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 49,500-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken would be those having the least adverse impact to wilderness values (i.e., those that least alter the landscape or disturb the land surface). Therefore, it is assumed that firefighting would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources in the 49,500-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resource. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Hunting would be allowed subject to applicable State and Federal laws and regulations, but would be limited to nonmotorized access.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be allowed. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 34,500 acres of the Swasey Mountains WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to analyze as wilderness that portion of the WSA having the most outstanding wilderness characteristics. The 34,500 acres analyzed as wilderness under this alternative include the central and most mountainous portions of the WSA. The 15,000-acre fringe areas within the WSA but outside the area designated as wilderness would be managed in accordance with the Topaz MFP and subsequent BLM planning, as described for the No Action Alternative. The 34,500-acre area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy," as described in the All Wilderness Alternative. This alternative would likely involve Federal acquisition of three sections of State land by purchase or exchange. (Refer to Volume I for further information regarding State in-holdings.) Six of nine State sections adjacent to this alternative area likely would be exchanged. Assumptions regarding analysis and impacts for State lands involved in the Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. The figures and acreages under this alternative are for Federal lands only.

A summary of specific actions follows.

- The 34,500-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. In the area that would be designated, development work, extraction, and patenting would be allowed to continue on about 2,500 acres of existing mining claims, provided they are valid. The existing oil and gas leases cover 33,220 acres and existing geothermal


Map 3
PARTIAL WILDERNESS ALTERNATIVE
Swasey Mountain WSA
UT-050-061
Legend
WSA Boundary
Partial Wilderness Alternative (34,500 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 15S.
T. 15½ S.
T. 16S.
T. 17S.
R. 14W.
R. 13W.
R. 12W.
Sand Dunes
Jeep Trail
Landing Strip
Tatow Knob
Robbers Roost
Swasey Peak
Dome Canyon
Antelope Mtn
Coyote Knolls

leases on 640 acres would be phased out upon expiration unless a find of oil, gas, or geothermal resources in commercial quantities is shown. The 15,000 acres not designated wilderness would be open to future mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (371 acres) and future mining claims could occur in the 15,000-acre area if claims are valid. The area that would not be designated would be managed as oil and gas leasing Category 1 (standard stipulations) on 11,296 acres, Category 3 (no surface occupancy) on 1,920 acres, and Category 4 (no leasing) on 1,784 acres. Existing oil and gas leases (13,080 acres) and geothermal leases (960 acres), as well as future leases in this area, could be developed without concern for wilderness values.

- Domestic livestock grazing would continue to occur in the 34,500-acre wilderness area. The 305 AUMs on parts of two allotments in the designated area would remain available to livestock as presently allotted. The existing developed springs, fencelines, and seeding could be used and maintained in the same manner as in the past based on practical necessity and reasonableness. New rangeland developments (one spring project is currently planned) would be allowed in the 34,500-acre wilderness if necessary for protection and management of the rangeland and/or wilderness resource as long as wilderness protection criteria are met (refer to Appendix 1). In the 15,000-acre nonwilderness area, grazing use (1,128 AUMs) would continue as authorized in the MFP. New rangeland developments (none are currently planned) could be developed in this area without concern for wilderness values.

- In the 34,500-acre wilderness, new water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed only if compatible with wilderness, if needed to correct conditions imminently hazardous to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 15,000 acres, water resource facility developments would be allowed if in accordance with the MFP without concern for wilderness values. None are now proposed.

- In the 34,500-acre wilderness, wildlife transplants or habitat developments would be allowed only if they would be compatible with wilderness values. One guzzler currently proposed would probably be allowed. In the remaining 15,000-acre area, wildlife transplants or developments would be allowed without concern for wilderness values. None are now proposed.

- The mountains and canyons that would comprise the 34,500-acre Swasey Mountains wilderness would be closed to ORV use. About 8 miles of existing ways would not be available for vehicular use except in situations described under the All Wilderness Alternative. The remainder of the unit, including the existing gravel roads and jeep trails that border the WSA and 3 miles of ways, would remain open to vehicular travel. The 0.25 mile of road "cherry-stemmed" near Antelope Spring would remain open to vehicles and access would continue to be allowed on the Sinbad Overlook Road.

- A specific Wilderness Management Plan would be developed that would govern use and protection of the 34,500-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.

- Harvest of forest products in the wilderness area would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining 15,000 acres would be open to woodland harvest.

- Visual resources on the 34,500-acre wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 15,000 acres would be managed as Class II (645 acres) and Class IV (14,355) as outlined in the MFP.

- Within the wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that

threaten human life, property, or high-value resources on adjacent nonwilderness lands or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that firefighting would be by hand and aerial techniques. In the 15,000-acre nonwilderness area, measures of control would be taken without wilderness considerations.

- In the nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 34,500-acre wilderness such activity would be allowed by permit only if compatible with wilderness values. Activities would be limited to those conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- In the 15,000-acre area, hunting would be allowed subject to applicable State and Federal laws and regulations. In the 34,500-acre wilderness, hunting would be subject to applicable laws and regulations but use would be limited to nonmotorized means.
- In the 15,000-acre nonwilderness area, control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the wilderness area, control of predators would be allowed for the same circumstances, but only under conditions that would have minimal disturbance to wilderness values. Poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences expected to result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed on the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

### Air Quality

The WSA is located in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. This classification permits moderate air quality deterioration. Existing air quality is generally excellent throughout the year. The WSA is near the center of the Great Basin and in an area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

### Geology

The Swasey Mountain WSA is located in the Basin and Range Physiographic Province. In general, this province is characterized by low rainfall, internal drainage, and short north-south trending blockfaulted mountain ranges. Swasey Mountains WSA is considered an above-average example of the blockfaulted mountains characteristic of this province.

The WSA is in the north end of the House Range, a 50-mile-long blockfaulted mountain range in western Utah. Elevations average 5,500 feet in the lowest points and rise abruptly to over 9,600 feet along its prominent west face. The two features that dominate the WSA are Swasey Peak (the highest peak in the House Range) and Tatow Knob; both are prominent landmarks in Utah's West Desert. The central part of the WSA has very rugged topography; the western, northeastern, and southeastern parts of the WSA are less steep.

Of interest to geologists, paleontologists, and laymen are the Antelope Springs' Trilobite Beds in the southwest side of the WSA. According to a Smithsonian Institute report, this area is "the most outstanding field for gathering fossils of the Cambrian geologic era in Utah and one of the most outstanding fields in the United States." Most fossil collecting takes place on a State section outside the WSA. However, there is a potential for more specimens within the WSA.

There are at least four limestone caves in the WSA and three adjacent to it; more will undoubtedly be found as the area is more thoroughly explored.

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## SWASEY MOUNTAIN WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (49,500 Acres) | Partial Wilderness Designation (34,500 Acres) (Proposed Action) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, and 50,000 tons of lead and zinc. Low temperature geothermal energy may also be developed. | Oil, gas, and geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. | Although likelihood is low, up to 1 million barrels of oil, 5 billion cubic feet of natural gas, 3 tons of beryllium, and 15,000 tons of lead and zinc could be recovered. |
| Wildlife | About 0.5 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. About 0.5 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat. |
| Livestock | Grazing of 1,433 AUMs and maintenance of existing developments would continue. A proposed new spring development could be constructed, and other new developments could be allowed. | Grazing of 1,433 AUMs and maintenance of existing developments would continue. Little effect on grazing management is expected. Proposed new developments might not be allowed. | Effects would be about the same as for the All Wilderness Alternative. |
| Visual Resources | The quality of visual resources could be impaired on up to 240 acres. | Visual quality could be impaired on up to 80 acres. | Visual quality could be impaired on up to 128 acres, including 56 acres in the designated portion. All of the Class A scenery would be within the designated portion and would be protected by the reduced potential for disturbance. |
| Recreation | ORV use would continue on 11 miles of ways at current levels. Overall recreational use could increase from the present 500 visitor days per year to 745 over the next 20 years. Up to 240 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 11 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 3 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## SWASEY MOUNTAIN WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (49,500 Acres) | Partial Wilderness Designation (34,500 Acres) (Proposed Action) |
| Wilderness Values | Wilderness values could be lost on up to 240 acres (0.5 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 80 acres (less than 0.2 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 56 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on less than 1 percent of the 15,000 acres not designated. Overall, wilderness values could be lost on less than 0.3 percent of the WSA. However, 70 percent of the area meeting the standards for naturalness and all of the areas meeting the standards for outstanding opportunities for solitude and primitive recreation would be in the designated portion and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan,* State of Utah plans and policies, and the current BLM Topaz MFP. | This alternative would not be consistent with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM Topaz MFP. | Partial designation would be the same as the All Wilderness Alternative. |
| Socio-economics | Annual local sales of less than $61,360 would continue. Current annual Federal revenues would be reduced by up to $35,358 due to phasing out of oil and gas leases to meet category restrictions. However, up to an additional $132,608 per year could be derived from leasing of areas presently unleased for oil and gas and geothermal resources. | Annual local sales of less than $61,360 and Federal revenues of up to $2,006 would continue, but potential Federal revenues of up to $243,235 from mineral leasing would be foregone, as compared to the No Action Alternative. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that potential annual Federal revenues would be reduced by up to $150,038. |

## Soils

Soils vary from light-colored alkaline loams and loamy sands of the desert floor and lower slopes to darker-colored, gravelly, acid loams of the mountain tops. There are no serious erosion problems in the WSA. The WSA's erosion condition classification is slight on the entire 49,500 acres. Erosion condition class was determined using soil surface factors (refer to Glossary). Assuming an annual soil loss of 0.6 cubic yards per acre from soils in a slight erosion condition, soil loss from erosion in this WSA would be approximately 29,700 cubic yards annually.

## Vegetation

In general, vegetation of the WSA is typical of the other mountain ranges in the region with a variety of shrubs and grasses throughout the WSA and pinyon, juniper, and other species at the higher elevations. BLM estimates there are approximately 1,100 acres of Douglas fir, white fir, limber pine, and ponderosa pine, with bristlecone pine near ridgetops and unique communities of mountain mahogany. Existing vegetation types are shown in Table 2. The only riparian vegetation is found in association with the five springs in the WSA and consists of less than 2 acres.

According to existing surveys, there are no threatened, endangered, or sensitive plant species within or near the boundaries of the WSA.

The Swasey Mountain WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are listed on Table 3. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Montane conifer | 1,100 | 2 |
| Pinyon-juniper | 23,000 | 47 |
| Sagebrush-horsebrush | 18,470 | 37 |
| Horsebrush-shadscale-halogeton | 3,960 | 8 |
| Shadscale-horsebrush-cheatgrass | 2,970 | 6 |

Source: Foster, 1968; USDI, BLM, 1973a.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 14,850 | 30 |
| Saltbush-greasewood | 34,650 | 70 |

Source: USDI, Geological Survey, 1978.

## Water Resources

Water resources consist of five springs in the WSA, plus two additional springs immediately adjacent to the WSA. There are no perennial streams. Antelope Springs (near the WSA boundary) is suitable for human consumption. No water quality data are available for the other springs.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system. Table 4 gives the mineral and energy resource summary rating for the WSA.

An overall importance rating (OIR) of 2 was assigned to the Swasey Mountain WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance.The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

**TABLE 4**
**Mineral and Energy Resource Rating Summary**

| | Rating | | |
|---|---|---|---|
| Resource | Favorability[1] | Certainty[2] | Estimated Resource |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f1 | c1 | Little or none |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c1 | Low temperature resource |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f2 | c1 | Less than 50,000 tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA contains small deposits of beryllium, lead, zinc, silver, molybdenum, and copper that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

## LEASABLE MINERALS

There are no known occurrences of leasable minerals in the WSA, nor are there any active drilling or exploration activities for leasable minerals.

### Oil and Gas

Oil and gas seismic surveys have taken place nearby. The geologic history of the WSA indicates that occurrence of large structural traps for oil and gas is unlikely; however, small traps may exist. The favorability for oil and gas deposits in the WSA is low. Approximately 10 million barrels of oil in-place and 60 billion cubic feet of natural gas in-place could occur within the WSA, with 3 million barrels of oil and 18 billion cubic feet of natural gas that are recoverable (refer to Appendix 6 for recoverability estimates). There are approximately 2,680 acres of pre-FLPMA oil and gas leases on the margins of the WSA; the remainder of the WSA has 43,620 acres of post-FLPMA leases.

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981b). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

Approximate acreages of present oil and gas leasing categories in the WSA are as follows: Category 1, 24,750 acres; Category 3, 9,900 acres; Category 4, 14,850 acres.

### Geothermal

Limited geothermal exploration has occurred in the form of geochemical analysis and mapping. There are approximately 1,600 acres of post-FLPMA geothermal leases in the northeast part of the WSA. Overall favorability for geothermal resources is rated low; additional data are necessary to determine if commercial potential exists. Geothermal resources are most likely to occur in the northern portion of the WSA. The oil and gas category restrictions also apply to geothermal leasing under the Topaz Planning Unit MFP (USDI, BLM, 1973b).

## LOCATABLE MINERALS

There are 112 mining claims in the WSA totaling approximately 2,871 acres. Most of these claims are located along the northern boundary of the WSA in two groups (or claim blocks). Each claim block also extends further north outside of the WSA. Exploration, sampling, and assaying have been actively ongoing for both claim blocks. Some of the samples contain evidence of gold, molybdenum, arsenic, antimony, mercury, silver, and manganese; however, exploration is incomplete and potential quantities are unknown.

No known uranium exploration or production has occurred inside the WSA, although such activities

have occurred nearby. The favorability for uranium occurrence in the WSA is rated low. In addition to the minerals rated by SAI (Table 4), silver and copper are known to occur in the WSA in small quantities.

The unit is assigned a low favorability for beryllium (potential resources of less than 10 tons). The certainty that beryllium occurs in this area is relatively low. Both lead/zinc and tungsten were also assigned favorability certainty ratings with potential resources of 50,000 tons and 500 tons respectively (refer to Table 4).

Molybdenum is known to occur inside and near the WSA but whether or not there are commercial quantities cannot be determined without further study. Exploration currently is centered in the Sand Pass area, north of the WSA.

### SALABLE MINERALS

Salable minerals, including sand, gravel, cinders, pumice, and limestone, occur in the WSA. No interest has been expressed in these resources due to their availability closer to centers of demand.

## Wildlife

There are approximately 50 species of mammals, 104 species of birds, 14 species of reptiles, and one amphibian species that inhabit the WSA at different times of the year. Although a great diversity exists, no one species could be described as dominant.

There is no Federally designated critical habitat in the WSA. However, most of the WSA is considered crucial winter range for mule deer, and there is a 7-mile-long migration corridor for mule deer. There are approximately 1,100 acres of high priority yearlong habitat for pronghorn antelope. An estimated 500 deer use the WSA during the winter and about 100 antelope inhabit the WSA year round. In addition, there are 1,900 acres of yearlong and 900 acres of winter habitat for chukar partridge. There are two endangered species, bald eagle and peregrine falcon, and one sensitive species, the golden eagle, which inhabits the WSA. There are approximately 49,000 acres of crucial yearlong golden eagle habitat within the WSA.

Approximately 12,000 acres in the WSA are managed under the West Desert Habitat Management Plan (USDI, BLM, 1980b). Planned wildlife habitat improvement projects include one guzzler to provide water for antelope. There are no vegetation manipulation projects planned for wildlife. There are no existing developments for wildlife habitat in the WSA.

## Forest Resources

There are about 1,100 acres of commercial timberland in the WSA, but approximately 95 percent of this acreage is inaccessible. There has been no demonstrated demand due to the limited quantity of the reserve and economic constraints.

There are approximately 23,000 acres of pinyon-juniper woodland with an estimated total volume of 82,370 cords of firewood, 19,720 juniper posts, and 20,000 lbs. of pine nuts annually. Only 1,500 acres (6.5 percent) of this woodland are accessible. Currently, about 250 cords of firewood, 50 to 100 juniper posts, and 200 lbs. of pine nuts are being harvested each year.

## Livestock and Wild Horses/Burros

Because of the rugged nature of the terrain, sheep and cattle grazing is concentrated on the lower benchlands and in the Sinbad area. Portions of four allotments used by eight operators involving both sheep and cattle are permitted for an estimated 1,433 AUMs in the WSA. This represents 11 percent of the AUMs for the allotments involved. Refer to Table 5 for specific allotment information.

**TABLE 5**
**Livestock Grazing Use Data**

| | Allotments | | | |
|---|---|---|---|---|
| | Antelope | Sand Pass | Tatow | Swasey Knolls |
| Permittees | 2 | 1 | 4 | 1 |
| Period of Use | 11/1-9/30 | 11/1-4/30 | Yearlong | 11/1-4/30 |
| Percent of Allotment Area in WSA | 34 | 22 | 43 | 3 |
| Estimated Available Livestock Forage in WSA (AUMs) | 497 | 289 | 602 | 45 |
| AUMs in Allotment | 4,142 | 2,223 | 2,508 | 4,500 |
| Percent of Total | 12 | 13 | 24 | 1 |
| AUMs in WSA | 497 | 289 | 602 | 45 |

Source: USDI, BLM, 1973a.

No areas within the WSA have been identified for vegetation manipulation projects to benefit livestock. A planned spring development has a potential to help distribute livestock. Existing livestock

improvements in the WSA include five spring developments, 0.50 mile of fence, and 20 acres of seeding (completed in 1956).

The extent to which operators use existing vehicular ways to manage their livestock operations is not known. Permittees herd sheep by horseback and water is not hauled within the WSA. Fences and springs can be maintained on foot or horseback. The seeding in the Sinbad area could need maintenance requiring heavy equipment.

The Swasey Mountains, including portions within the WSA, are used by approximately 77 wild horses. Plans call for management of the herd to maintain a population of approximately 100 animals; thereafter, the intent is to control numbers by capture and removal of excess animals. No burros are known to inhabit the WSA.

## Visual Resources

A wide variety of vegetation and topographic features make the Swasey Mountains visually attractive. Swasey Peak, Tatow Knob, and the sheer limestone cliffs along the west side are the most striking features. The east slopes are characterized by pinyon-juniper-covered slopes, giving way to Douglas fir, white fir, and bristlecone pine on the steep slopes of Swasey Peak. There are numerous grey-and-tan limestone rock outcrops. The lower benchlands are characterized by low gray sagebrush, light tan soils, and subdued topography.

The BLM Visual Resource Evaluation System (refer to Appendix 7) was used to rate the WSA's visual characteristics as shown in Table 6 (terms are defined in the Glossary).

**TABLE 6**

**Visual Resource Quality and Management Class**

| Element | Acres | Percent of WSA |
|---|---|---|
| Scenic Quality | | |
| Class A | 35,145 | 71 |
| Class B | 0 | 0 |
| Class C | 14,355 | 29 |
| Management Classes | | |
| Class I | 0 | 0 |
| Class II | 35,145 | 71 |
| Class III | 0 | 0 |
| Class IV | 14,355 | 29 |

Source: USDI, BLM, 1973a.

## Cultural Resources

There are 11 sites recorded in this WSA. Most are rockshelters reflecting Archaic, Fremont, and Shoshoni use of the area. The others are open sites that also reflect this use. The potential for finding other sites of these types is high. There should also be historical sites in the area that reflect mining and ranching activities that occurred in the WSA.

There are no National Register sites or nominees in the WSA.

## Recreation

Sixteen recreational opportunities were evaluated for their quality in this WSA. Fourteen opportunities are present in varying degrees. Four activities (backpacking, horseback riding, rockhounding, and scenic vistas) are of above average to excellent in quality. Six activities are average in quality, with the remaining activities rated fair or poor. A summary of selected recreational activities follows:

As discussed in the Geology section, the trilobite beds are of national significance. Approximately 210 visitor days a year are attributed to rock collecting.

The seven caves in the Swasey Mountains are known to spelunkers. Four of the caves are within the WSA. Descriptions of the caves are contained in several published reports. Cave exploration is above average in quality due to the remote and relatively undisturbed nature of the caves. No visitor use data are available for spelunking in the WSA. However, there are approximately 190 visitor days attributed to Antelope Cave, immediately outside the WSA. Use inside the WSA is lower, estimated to be less than 50 visitor days.

Scenic vistas from the Swasey Mountain WSA are above average. There are views of Tule Valley, Deep Creek Mountains, Wheeler Peak, and numerous other ranges and valleys of western Utah.

Many individuals from Delta, Utah, and the surrounding small communities drive to the Swasey Mountains for scenic sightseeing and collecting of firewood. The Sinbad Overlook road winds approximately 2.50 miles up the south and west slopes of the Swasey Mountain. Sinbad Overlook offers a panoramic view of the Deep Creek, Fish Springs, Conger, and Confusion Mountain ranges. Eighty visitor days annually are attributed to collection of firewood and sightseeing along this road.

Dayhiking trips are possible by crosscountry routes up Swasey Mountain. Longer trips are possible by pack trail to Tatow Knob and Robbers

Roost Cave. The presence of potable water at several springs enhances the recreational opportunities in the WSA.

Hunting in the Swasey Mountains is limited primarily to deer. Although the number of hunters is low, hunter success is high. Most of the hunting takes place from horseback along the higher canyon trails winding out along the ridgeline north of Sinbad Overlook. Some 40 individuals participate annually in deer hunting in this area, accounting for about 160 visitor days of use.

The majority of the WSA is too steep and rocky for vehicular use off the existing roads and trails; however, there are approximately 11 miles of vehicular ways. Most of the ORV use takes place on the jeep trails in Sawmill and North Canyons. No ORV visitor use data are available.

The total recreational use of the WSA is currently estimated at 500 visitor days annually. Approximately 52 percent of the use is attributed to primitive activities (such as rock collecting and spelunking) and approximately 48 percent is attributed to recreational activities (such as hunting and sightseeing) that currently utilize vehicular access on existing ways. There is no ORV use attributed to use solely for ORV play activities.

The area is currently undesignated for ORV use. The House Range RMP currently scheduled for completion in 1986 may or may not limit use in selected areas.

## Wilderness Values

### SIZE

The Swasey Mountain WSA is approximately 17 miles long (north to south) and 12 miles wide and encompasses 49,500 acres of public land.

### NATURALNESS

Most of the WSA is natural. There are approximately 11 miles of vehicular ways on the lower east side elevations of the WSA that were determined to be substantially unnoticeable during the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980a). Essentially all of the 49,500 acres of the WSA meet the naturalness criteria of the *Wilderness Act*.

### SOLITUDE

Opportunities to find solitude (i.e., a secluded spot away from others) within the WSA are influenced by size, topography, vegetation, and the absence of distracting sights and sounds.

The WSA is of sufficient size to allow visitors to be unaware of others in the vicinity. Rugged topography contributes to solitude in the central portion of the WSA; there is little opportunity for solitude on the lower benches of the east and west sides of the WSA. The highest points, Swasey Peak and Tatow Knob, offer outstanding views of Tule Valley, the Deep Creek Mountains, Wheeler Peak, etc., further contributing to the feeling of solitude.

Vegetation in the central part of the WSA contributes to solitude by screening visitors from each other. This vegetation includes pinyon, juniper, white pine, Douglas fir, limber pine, and occasional ponderosa pine. The sparse shrubs found on the lower benches do not contribute to solitude.

Off-site intrusions and influences are sights and sounds that may affect solitude.

The Swasey Mountain WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range which includes the Swasey Mountain WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

When considered together, these factors indicate that the quality of solitude meets the *Wilderness Act* standards on 32,175 acres in the central part of the WSA and does not meet the *Wilderness Act* standards on 17,325 acres in the benchlands on the margin of the WSA.

### PRIMITIVE AND UNCONFINED RECREATION

Opportunities for primitive, unconfined recreation were evaluated by considering miles of hiking routes in relation to the WSA's size, the number of recreational opportunities present, and the quality of these opportunities.

As discussed in the Recreation section, this WSA was determined to have opportunities for 14 activities related to primitive, unconfined recreation. Rockhounding, horseback riding, backpacking, and scenic vistas were determined to be above average in quality.

The overall quality of the opportunities for primitive, unconfined recreation in the WSA meets the *Wilderness Act* standards on 32,175 acres in the central part of the WSA and does not meet the standards on 17,325 acres in the benchlands on the margin of the WSA, due to the relative flatness and sparse vegetation.

### SPECIAL FEATURES

Several special features have been identified including wild horses (77), bristlecone pine (1,100 acres), fossils (150 acres), and four limestone caves.

While wild horses are not particularly unique to the western United States, they are of high interest to the average visitor. The same is true of bristlecone pine (which also has scientific values). The trilobite specimens found in the Wheeler Shale are of particular interest since they are above average to excellent quality. However, the best specimens are on adjacent State land. The caves described in the Geology section also enhance the recreational opportunities in the WSA.

## Land Use Plans and Controls

The *Millard County Master Plan* (Paul Nelson Associates, Inc., 1983) does not specifically address wilderness. The county believes that Federal lands in the county should be generally utilized to their greatest economic potential under a multiple-use concept.

Gravel roads that are secondary travel routes border the WSA on the west, south, and east. There are five State sections or portions thereof (3,068.5 acres) inside the WSA and an additional sixteen State sections adjacent to it. The management philosophy for all State sections is to maximize economic returns for the State School Fund. Except for grazing, no activities are presently occurring on these sections, although these are all under lease for oil, gas, and fossils.

There are no private in-holdings, private subsurface rights, or rights-of-way within the WSA.

The Topaz Planning Unit MFP (USDI, BLM, 1973b) is the current BLM planning document for the area; the House Range RMP, scheduled for completion in 1986, will supersede this document. The Topaz MFP is open to multiple use as identified in the Description of the No Action Alternative, and predates wilderness considerations.

## Socioeconomics

The Swasey Mountain WSA is located in Millard County, approximately 35 miles west of Delta, Utah.

### DEMOGRAPHICS

Census figures for 1980 show a Millard County population of 8,970 (an increase of 28.4 percent since 1970). A major portion of the Millard County population lives in Delta (1,930) and Fillmore (2,083). The construction of the Intermountain Power Project (IPP) adds significantly to the population of Millard County.

### EMPLOYMENT

The government sector (Federal, State, and local) is the most important in terms of employment in the Millard County economy. Farm employment makes up about 26 percent of the total employment in Millard County. Table 7 presents first quarter 1982 nonfarm employment figures for the county.

**TABLE 7**
**1982 Nonfarm Employment**
**Millard County, Utah**

| Type/Source | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transport, Communication and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance, and Real Estate | 73 | 3.3 |
| Services | 167 | 7.6 |
| Government[1] | 739 | 33.7 |
| Total | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.

[1] Total Federal, State and local.

The construction of IPP is having and will continue to have a significant impact on both employment and income in the county.

Table 8 shows personal income and earnings of $40,602,000 for Millard County in 1982. Nonfarm activities account for approximately 85.9 percent of the total income, whereas farm activities account for 14.1 percent.

**TABLE 8**
**1982 Personal Income and Earnings**
**Millard County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 40,602 | 82.7 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 5,717 | 9.0 |
| Nonfarm | 34,885 | 105.0 |
| Private | 25,315 | 110.8 |
| Agricultural Service and Other | 609 | -6.9 |
| Mining | 3,192 | 236.4 |
| Construction | 5,889 | 668.7 |
| Manufacturing | 2,454 | 69.0 |
| Transportation and Public Utilities | 3,802 | 69.8 |
| Wholesale Trade | 1,531 | 40.9 |
| Retail Trade | 4,165 | 54.2 |
| Finance, Insurance and Real Estate | 1,368 | 124.6 |
| Services | 2,305 | 48.6 |
| Government | 9,570 | 91.0 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 1984.

## INCOME AND REVENUES

Economic-related activities in the WSA include mineral exploration, livestock production, woodland production, and recreation. Table 9 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

The WSA has 112 mining claims. Regulations require a minimum of $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all claims are current in assessment work. The geophysical exploration which has been conducted in the WSA has generated some temporary local employment and income.

Eight livestock operators have a total grazing privilege of 1,433 AUMs within the WSA. If all this forage were utilized, it would account for $28,660 of livestock sales including $7,165 of ranchers' returns to labor and investment.

Some woodland products are harvested from the WSA; however, the harvests have been small and are insignificant to the local economy and only of minor significance to those involved in the harvest. Firewood, juniper post, and pinyon nut harvest yield products are valued at up to $19,450; however, because of the number of individuals involved, the value is not great per individual.

**TABLE 9**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $138,900 |
| Geothermal Leases | None | $6,400 |
| Mining Claim Assessment | Less than $11,200 | None |
| Livestock Grazing | $28,660 | $2,006 |
| Firewood Harvest | $19,450[2] | $685 |
| Recreational Use | Less than $2,050 | None |
| Total | Less than $61,360 | Up to $147,991 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

[2] This amount is not equivalent to sales but is the value of forest products to those who gather them.

The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Swasey Mountain WSA is estimated as about 500 visitor days per year. Only a portion of the $2,050 expenditures for recreational use of the WSA contributes to the local economy of Millard County.

The WSA generates Federal revenues from mineral leases, livestock, woodland products, and recreation sources (refer to Table 9).

Oil and gas leases in the WSA cover approximately 46,300 acres. At $1 to $3 per acre, lease rental fees generate up to $138,900 of Federal revenues annually. Approximately 1,600 acres are under lease for geothermal resources. At $1 to $4 per acre, lease rental fees generate up to $6,400 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA

can use up to 1,433 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $2,006 of grazing fee Federal revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

Harvest of fuelwood, posts and pine nuts from the WSA generates up to an estimated $685 of Federal revenues annually.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas and locatable mineral exploration and development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown but would probably be low due to the WSA's rough terrain and limited resource potential. The following is a worst-case analysis, based on the assumption that minerals would be developed some time in the future and would result in the following disturbance: oil and gas and geothermal, 160 acres; beryllium, 40 acres; and lead/zinc, 40 acres. (Appendix 10 lists mineral-related surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area; therefore, air quality could be reduced only up to the PSD Class II limitations. Disturbance of 240 acres would result in only minor increases in fugitive dust emissions, and the likelihood of degradation from mineral-related disturbance in the near future is thought to be low. Operation of IPP could result in degradation of air quality up to the PSD Class II limitations. Depending on meteorological conditions, a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979).

### GEOLOGY

No impacts to geology are expected because surface disturbances associated with leasable (i.e., oil and gas and geothermal) and locatable (i.e., beryllium, lead, zinc, tungsten) minerals exploration and development activities would probably not exceed 240 acres, which would not change the geologic structure of the area.

### SOILS

It is estimated that up to 240 acres of soil could be disturbed by mineral and energy exploration and development. Assuming that all disturbance would occur in areas with slight erosion class (worst-case analysis) and that erosion condition would increase one class (moderate, 1.3 cubic yards/acre) soil loss on the 240 acres would increase from 144 cubic yards/year to 312 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 168 cubic yards (0.57 percent) over current annual soil loss. This is a small increase and the effects would likely be imperceptible.

## VEGETATION

Analysis indicates that up to 240 acres could be subject to surface-disturbing activities related to mineral and energy exploration and development. Development of these areas could permanently modify small portions of existing and PNV types (refer to Tables 2 and 3) by altering soil characteristics; however, no major change in any vegetation type would be anticipated.

According to existing surveys, there are no species of officially threatened, endangered, or sensitive plants found within or near the WSA. However, before authorizing surface-disturbing activities (240 acres potential) the BLM would conduct site-specific clearances of the potentially disturbed areas and would informally consult with the FWS as required by BLM policy (refer to Appendix 4). If threatened or endangered species were found that could be affected, the BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act and appropriate mitigating measures would be applied. If threatened, endangered, or sensitive plant species occur in the WSA, necessary measures would be taken to protect them and it can be reasonably concluded that the viability of populations of these plants would be preserved under the No Action Alternative.

## WATER RESOURCES

No perennial streams occur in the WSA, and no activities that would have a significant adverse impact on the five existing springs are expected in the near future. No significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the increase of 168 cubic yards of annual soil loss from surface disturbance. Opportunities for maintenance, additional improvements (other than for rangeland or wildlife), or expansion of existing water sources could occur, but are not planned in the current MFP for the area.

Mineral exploration and development in the area generally would be confined at or near the surface or with widely spaced wells and would not significantly change ground water quantity or quality.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

Under this alternative the potential for up to 10 million barrels of oil in-place (3 million estimated recoverable) and up to 60 billion cubic feet of natural gas (18 billion estimated recoverable) could be developed without wilderness consideration.

Under this alternative, the 43,620 acres of post-FLPMA oil and gas leases and the 1,600 acres of post-FLPMA geothermal leases could be developed without wilderness considerations. Existing oil and gas leases would expire and would not be renewed on 11,786 acres that would be managed under Category 4 (no leasing).

Leasing and development of oil and gas and geothermal resources would be guided by existing policy and regulations. Approximately 160 acres of surface disturbance would take place if exploration and development were to occur. However, due to the small size of potential deposits, no development of energy resources is expected under this alternative.

### Locatable Minerals

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. Existing and new claims could be developed without wilderness considerations. The potential deposit of up to 50,000 tons of lead/zinc and up to 10 tons of beryllium could be developed. Approximately 80 acres could be disturbed due to exploration and development of these locatable mineral resources. However, the likelihood of development is thought to be minimal because of economic considerations (e.g., transportation, low potential, etc.).

## WILDLIFE

Under this alternative, wildlife would benefit by an increase in the availability of water through development of the one guzzler currently proposed to provide water for antelope. Other developments (none are currently planned) could be completed without wilderness considerations. However, disturbance of an estimated 240 acres (0.48 percent of the WSA) through mineral and energy development and exploration would disrupt wildlife. Deer, pronghorn antelope, and mobile nongame animals would be dispersed from the area of disturbance for the lifetime of

these activities. Some less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels.

The disturbance of up to 240 acres of wildlife habitat includes crucial winter range for and a migration corridor for mule deer, high priority yearlong habitat for pronghorn antelope, yearlong and winter habitat for chukar partridge, and crucial yearlong golden eagle range that could be subject to surface-disturbance activities associated with mineral and energy exploration and development under this alternative.

Two endangered species that inhabit the WSA, bald eagle and peregrine falcon, and one sensitive species, the golden eagle, would avoid the area of disturbance. However, when considering the wildlife in the WSA as a whole and the amount of potential disturbance of 240 acres (0.48 percent of the WSA), impacts to wildlife are not expected to be significant. Before authorizing surface-disturbing activities the BLM would conduct site-specific clearances of the potentially disturbed areas and would informally consult with the FWS as required by BLM policy (refer to Appendix 4). If threatened or endangered species could be affected, BLM would initiate Section 7 consultation with the FWS under provisions of the Endangered Species Act and appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these birds, it can be reasonably concluded that the viability of populations of threatened, endangered, or sensitive animal species would be preserved under the No Action Alternative.

### FOREST RESOURCES

There are approximately 1,100 acres of commercial timber; however, 95 percent of this acreage is inaccessible. There are an additional 23,000 acres of pinyon-juniper, but only 1,500 acres are accessible for harvest. However, harvest of approximately 1,500 acres of pinyon-juniper woodland with a potential of 5,375 cords of firewood and 1,280 juniper posts would be possible under this alternative. Demand for about 250 cords of firewood, 50 to 100 juniper posts, and 200 lbs. of pine nuts per year would continue.

### LIVESTOCK AND WILD HORSES

Present livestock use is limited to the benchland and to the Sinbad Overlook area. The usable area within the WSA represents only 11 percent of the AUMs within the allotments.

Domestic livestock grazing would continue as authorized in the Topaz MFP (until superseded by the House Range RMP). The 1,433 AUMs currently allocated in the WSA are controlled by eight livestock permittees. Additional roads or other facilities for livestock management could be proposed and developed in the future without regard for wilderness values.

Few, if any, changes in livestock management techniques are expected. The existing livestock developments, including five spring developments, 0.50 mile of fence, and 20 acres of seeding could be used and maintained as in the past. The proposed spring development could be developed without wilderness considerations and would result in improved livestock distribution. No areas within the WSA have been identified for future vegetation manipulation.

The herd of wild horses (approximately 77 animals) would continue use of the WSA as at present, and current plans for management of a herd of approximately 100 animals could be implemented.

### VISUAL RESOURCES

There are 35,145 acres of Class A scenery, no acreage of Class B scenery, and 14,355 acres of Class C scenery.

Under this alternative, visual quality in the WSA would be protected by limitations placed on potential surface-disturbing activities. Approximately 35,145 acres would be managed as VRM Class II where disturbance is managed to be subordinate to the landscape character. Approximately 9,900 acres would be managed as leasing Category 3 (no surface occupancy), and 14,850 acres would be closed to leasing (Category 4). No surface disturbance from oil and gas or geothermal development would take place in Category 3 and 4 areas.

However, disturbance of 240 acres due to mineral and energy related exploration and development is possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in Class II areas during the short term. Even after rehabilitation, some permanent localized degradation would be expected. Oil and gas or geothermal development would largely be limited to the 24,750 acres managed under Category 1. If roads and vehicular ways and drill pads from mineral exploration and development are located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole.

## CULTURAL RESOURCES

Disturbance of 240 acres by mineral and energy exploration and development under this alternative could affect the 11 recorded sites and other cultural resources through loss and vandalism due to increased access. Inadvertent loss or damage could occur in the disturbed areas. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would mitigate impacts. The overall effect on cultural resources is unknown, but is expected to be minimal. Vandalism would increase in proportion to the general population increase.

## RECREATION

Up to 240 acres could be disturbed by mineral and energy activities. Recreation values such as hiking, horseback riding, spelunking, and general sightseeing could be lost or impaired, but only if extensive mineral exploration occurred. Exploration and development of energy and mineral resources would improve recreational access for nonprimitive recreation, but could degrade primitive recreational values.

If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, the area's energy and mineral potential is low. There is little probability of development; therefore, no significant impact to the recreational resource would be expected under this alternative.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 500 current visitor days per year to 745 visitor days at the end of 20 years. Assuming that the 2-percent increase would be uniform among all recreation uses in the WSA, primitive recreational use would increase from the estimated current use of 260 visitor days per year to about 387 visitor days per year over the next 20 years. Likewise, recreational activities utilizing vehicular access (hunting, sightseeing, etc.) would increase from 240 visitor days per year to 358 visitor days. ORV play activity would also increase an unquantifiable amount (no visitor use data are available). Eventually, primitive recreational use could decline as vehicular use increased.

Overall, within the WSA recreational use would be expected to increase about 5 percent annually (five visitor days annually) due to population increases within Utah.

The approximately 11 miles of ways would be left open to ORV use, unless restrictions are made in the House Range RMP scheduled for completion in 1986. Presently use is light.

## WILDERNESS VALUES

None of the area would be designated wilderness, and management would be under the existing MFP. Special features include 77 wild horses, 1,100 acres of bristlecone pine, 300 acres of fossils, and four caves.

Since the WSA would not be designated wilderness under this alternative, the identified wilderness values would not receive the degree of protection afforded by application of the "Wilderness Management Policy."

Wilderness characteristics in the WSA would be protected by limitations placed on potential surface-disturbing activities (i.e., VRM Class II management on 35,145 acres and management under Category 3 on 9,900 acres and Category 4 on 14,850 acres). Disturbance of 240 acres from mineral exploration and development is possible, and the related surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area. However, this is unlikely because the potential for mineral development and related disturbance is low in this WSA.

Eleven miles of ways currently receiving light use would remain open to ORV travel. As these and possibly future roads in the area are used, opportunities for primitive recreation and solitude would diminish. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

## LAND USE PLANS AND CONTROLS

This alternative would generally be consistent with the *Millard County Master Plan*, which favors multiple use on public lands. This alternative is based on implementation of the current BLM Topaz MFP (until it is superseded by the House Range RMP) and is, therefore, in conformance with it. The No Action Alternative would be consistent with State of Utah plans and policies that emphasize economic return.

### SOCIOECONOMICS

Future growth in the economy of Millard County is expected to continue following the patterns of recent years, with the notable inclusion of IPP. Based on this assumption, the Utah Office of the State Planning Coordinator (1980) projects that the government sectors of Millard County should not expand greatly beyond their current size, while the retail trade, manufacturing, and services sectors will continue to grow at a relatively stable rate through the year 2000.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present with the exception that existing oil and gas leases would be phased out on 11,786 acres. If the oil and gas, geothermal, beryllium, lead/zinc, and tungsten in the WSA are developed it would lead to an increase in employment and income for Millard County. However, the probability of economic development of minerals within the WSA is low (refer to the Mineral and Energy Resources section for a description of mineral and development potentials).

There would be no livestock-related economic losses because the existing grazing use (1,433 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Because recreational use in the area is estimated to increase 245 visitor days per year over the next 20 years and overall recreation-related expenditures average $4.10 per visitor day (only a portion of which contributes to the local economy), recreation-related expenditures attributable to the WSA would likely not be significant to the local economy.

Federal and State revenues would be reduced slightly by this alternative. Existing oil and gas leases would be phased out on 11,786 acres to meet planned oil and gas category restrictions. If leased they would bring from $1 to $3 per acre per year. This would lead to a reduction of $35,358 in Federal lease fee revenues per year. Approximately 1,600 acres are under lease for geothermal resources. There are 136 acres in the WSA open to leasing that are currently not leased for oil and gas and 33,050 acres open but not currently leased for geothermal resources. Although the potential for development is low, if leased, the acres would bring up to $3 for oil and gas and from $1 to $4 additional Federal lease revenues per acre per year depending on the amount of diligent development. This could bring up to $132,608 additional Federal lease revenues per year in addition to possible royalties from lease production. Half of these monies would be allocated to the State, a portion of which could reach the local economy.

Collection of livestock grazing fees ($2,006 per year) would continue. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (49,500 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 49,500-acre area would be related to withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 11 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 80 acres of disturbance within the WSA. It is also assumed that existing oil and gas and geothermal leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas would not be allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas for this alternative would be smaller than under the No Action Alternative (80 vs. 240 acres), the impacts from development and surface disturbance on air quality, geology, soils, vegetation, water, and cultural resources under the All Wilderness Alternative would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce potential for disturbance. Other effects on these resources due to changes in management are discussed below.

### WATER RESOURCES

Opportunities for additional improvements or

expansion of existing water improvements could not occur. Mineral exploration and development in the area is generally confined at or near the surface or with widely spaced wells, and these activities would not significantly impact ground water.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

Approximately 46,300 acres in the WSA (2,680 acres pre-FLPMA and 43,620 acres post-FLPMA) are under oil and gas leases. However, no exploration or development of oil and gas is presently occurring within the WSA. There are no known occurrences of leasable minerals in the WSA. Potential for the occurrence of oil, gas, and geothermal resources is low.

Existing pre-FLPMA and post-FLPMA leases could be developed subject to the stipulations issued at the time of leasing. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases will not be reissued. Even without wilderness designation potential lease acreage would be reduced to 34,650 acres to meet category restrictions.

Exploration for and development of a potential resource of up to 10 million barrels of oil in-place and less than 60 billion cubic feet of natural gas with 3 million barrels of oil and 18 billion cubic feet of natural gas recoverable could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas recovery.

Except for the 1,600 acres currently under geothermal lease, any potential for geothermal development would be foregone; however, the potential for such development is low even without wilderness designation.

### Locatable Minerals

There are 2,871 acres under 112 mining claims within the WSA. There are no known commercial deposits of any locatable minerals in the WSA, and potential for their occurrence is low. Up to 50,000 tons of lead/zinc and up to 10 tons of beryllium that are recoverable could occur within the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines, but with wilderness considerations.

If minerals are located prior to wilderness designation, it is estimated that up to 80 acres could be disturbed due to exploration and development of the locatable mineral resources.

The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case, the potential for recovery of up to 50,000 tons of lead/zinc and 10 tons of beryllium would be foregone.

Because production of these minerals is not presently occurring and because economic considerations (i.e., transportation, low potential, etc.) are unfavorable, it is unlikely that exploration or development would occur even without wilderness designation. Therefore, this alternative would not result in any significant loss of recoverable lead/zinc and beryllium resources.

## WILDLIFE

Under this alternative, up to 80 acres (0.16 percent of the WSA) of wildlife habitat, including crucial yearlong golden eagle habitat, could be subject to surface-disturbing activities associated with mineral exploration and development. However, because wilderness designation would protect the natural character of almost all of the WSA, wildlife would generally benefit from the alternative.

Some wildlife could benefit due to the preservation of solitude. The proposed antelope guzzler could probably be developed under this alternative, improving antelope habitat in the area. However, water is a limiting factor for wildlife in this WSA. If future water improvements were curtailed (none other than the guzzler are currently planned) potential habitat for mule deer, chukar partridge, pronghorn antelope, and nongame species could be reduced.

In addition, disturbance due to exploration and development of locatable mineral resources could disrupt wildlife populations and result in these species leaving the area of disturbance.

The presence of bald eagle, peregrine falcon, and golden eagle would remain the same in much of the WSA, except on those 80 acres of mineral disturbance where these species would leave the area during the period of activity.

Measures to protect these species from mineral exploration and development would be the same as described in the Wildlife section of the No Action Alternative and the viability of populations would be preserved.

## FOREST RESOURCES

Harvest of approximately 55 acres of commercial timber would be foregone. Harvest of approximately 1,500 acres of pinyon-juniper woodland with a potential of 5,375 cords of firewood, 1,280 juniper posts, and 1,300 lbs. of pine nuts would also be foregone; however, impacts would be considered low due to availability of the resource outside the WSA, low demand, and because only 5 percent of the timber and 6.5 percent of the woodland products are presently accessible.

## LIVESTOCK AND WILD HORSES

Present livestock use is limited to the benchland and the Sinbad Overlook area. The usable area within the WSA represents 9 percent of the AUMs within the allotments.

Present domestic livestock grazing would continue as authorized in the current MFP. The 1,433 AUMs currently allocated in the WSA are controlled by eight livestock permittees. Since motorized vehicles are seldom used to manage livestock, little effect on the management of livestock grazing is expected from closure of the area to ORVs. Existing improvements could be maintained as in the past, based on practical necessity and reasonableness. No areas within the WSA have been identified for vegetation manipulation for livestock benefits.

The proposed spring development could be developed and would result in better distribution. Development of future roads or other livestock management facilities for use with the 1,433 AUMs in the WSA could be restricted to preserve wilderness values.

Use of the WSA by approximately 77 wild horses would continue as well as the current plans for management of a herd of approximately 100 animals.

## VISUAL RESOURCES

There are 35,145 acres of Class A scenery, no acreage of Class B scenery, and 14,335 acres of Class C scenery. Mineral-related surface disturbance would be reduced from 240 acres to 80 acres, associated with development of valid mining claims. The majority of the potential disturbance would be located in the steeper limestone terrain covered with pinyon-juniper. Mining assessment work would cover several small areas.

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through continuation of the ORV closure, and through closure of the entire area to future mineral leasing and location.

Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met on disturbed areas during the short term. Even after rehabilitation, some permanent localized degradation could be expected. If roads for development of valid mining claims could not be denied (worst-case analysis), VRM Class I objectives might not be met on the designated portion. Because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole.

## CULTURAL RESOURCES

Under this alternative, cultural resources on up to 80 acres could be subject to loss from surface-disturbing activities associated with mineral exploration and development.

There is a potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

## RECREATION

This alternative could be expected to benefit recreation by increasing management recognition of and contributing to the protection of the area's primitive recreation values.

ORV use would be prohibited. Little ORV use is occurring now nor is any increase expected to occur due to topographic constraints; however, about 11 miles of existing vehicular way would be closed except as cited in the Description of the Alternatives section. As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Construction of IPP near Delta, Utah, would also contribute to the increased use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness

Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. The 740 visitor days of vehicular hunting, sightseeing, and/or small amount of ORV activity in the WSA that could occur without designation would be eliminated from the WSA. Because there are other suitable ORV play areas in the vicinity of the WSA and the majority of WSA is too steep and rocky for vehicular use off existing roads and trails, ORV use would probably not experience an overall decline in the vicinity of the WSA. Access to the high country would continue to be allowed on the Sinbad Overlook road.

Recreation use is estimated at 500 visitor days a year.

There is no reason to expect that any significant adverse impact to recreation would result from this alternative.

If roads for development of valid mining claims could not be denied, the quality of primitive recreational opportunities would be reduced. Because the potential for mineral production is low and wilderness designation would reduce the potential for surface disturbance (no more than 80 acres of disturbance is likely), the quality of the primitive recreational experience would likely be preserved throughout the area.

### WILDERNESS VALUES

Designation and management of all 49,500 acres as wilderness would contribute to the preservation of the wilderness values of size, naturalness, and outstanding opportunities for solitude and primitive recreation. Solitude would be preserved on approximately 32,175 acres that meet and 17,325 acres that do not meet the standards for outstanding solitude. Naturalness would be preserved on all 49,500 acres and primitive and unconfined recreation would be preserved on 32,175 acres that meet and 17,325 acres that do not meet the standards for outstanding opportunities. Overall, wilderness qualities were determined to be of high value in the central, mountainous portion of the WSA and of low value on the benchlands. The special features in this WSA (i.e., 77 wild horses, 1,100 acres of bristlecone pine, 150 acres of fossils, and four caves) identified previously would also be protected and preserved.

Opportunities for four above-average to excellent quality recreational activities (backpacking, horseback riding, rockhounding, and scenic vistas) would be preserved. Although recreational use could increase (refer to Recreation section above), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreational values would be expected.

No development of leases on the designated portion is foreseen under this alternative. The possible mineral-related surface disturbance would be reduced from 240 acres to 80 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Because there are 2,871 acres (5.8 percent of the WSA) under mining claims, mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive and unconfined recreation on the affected areas and could reduce these values in the area as a whole until the disturbed areas are satisfactorily reclaimed. However, since the potential for mineral production is low and mitigation would be imposed to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

Thus, it is concluded that wilderness designation and management of all 49,500 acres of the Swasey Mountains WSA would preserve wilderness values in the WSA, except in localized areas affected by surface disturbance related to mineral exploration. In the area as a whole, however, no significant loss of wilderness values would be expected. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The existing Topaz MFP does not provide for wilderness designation, and the forthcoming House Range RMP will note the separate wilderness study process but will not cover wilderness designation. Congressional designation of the WSA as wilderness would amend the applicable BLM land use plan.

The *Millard County Master Plan* recommends multiple use of all public lands in the county. This alternative would not totally conflict with the multiple-use concept since many existing resource uses would continue, although under more restrictive conditions. However, designation would conflict with the County's multiple-use

concept because oil, gas, and geothermal leases likely would expire, and future leasing and location of minerals would not be allowed.

If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

#### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 9) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed, but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $28,660 of livestock sales and $7,165 of ranchers' return to labor and investment. Proposed improvements for livestock would be foregone along with any resulting increase in ranchers' income. No such potential range improvements have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide). Motorized recreational use of the WSA is light. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

The loss of 34,650 acres that could be leased for oil and gas with the No Action Alternative would cause an eventual loss of up to $103,950 per year; the loss of 1,600 acres now leased for geothermal resources would cause an eventual loss of up to $6,400 per year of lease fees to the Federal Treasury. There would also be a potential loss of up to $132,000 annually in Federal revenues from geothermal leases on 33,050 acres that could be leased without designation. In addition to these rental fees, any potential royalties from new lease production could also be foregone.

Wilderness designation would eliminate most woodland product harvesting within the WSA and related Federal revenues. Present harvest from the WSA generates about $685 annually in Federal revenues.

No existing rights-of-way or permits would be eliminated through wilderness designation.

### Partial Wilderness Alternative (34,500 Acres)

#### (PROPOSED ACTION)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 34,500-acre area that would be designated wilderness and the 15,000-acre area that would not be designated wilderness are discussed in the Description of the Alternatives section.

It is assumed that, in the designated area, some of the existing mining claims would eventually be explored and developed, causing an estimated 56 acres of disturbance. It is also assumed that existing oil and gas and geothermal leases in the designated portion would expire before production of commercial quantities. Oil and gas and geothermal leases would not be renewed, and future leasing would not be allowed.

It is assumed that, within the nondesignated area, 72 acres would be disturbed sometime in the future due to mineral (24 acres) and oil and gas and geothermal (48 acres) exploration and development.

Overall, 128 acres of surface disturbance would occur within the WSA. This is 112 acres less than under the No Action Alternative, and 48 acres more than with the All Wilderness Alternative. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

The analysis of the No Action Alternative, based on 240 acres of surface disturbance from mineral

and oil and gas exploration and development, shows that full development of potential resources with associated surface disturbance would not significantly affect air quality, geology, soils, vegetation, water, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative, which assumes 128 acres of surface disturbance.

Restrictions on management and development methods within the WSA would result in essentially the same impacts on development of water sources, mineral and energy resources, wildlife, livestock, wild horses, and land use plans as described for the All Wilderness Alternative. The following analysis describes the differences between the Partial Wilderness, No Action, and All Wilderness Alternatives.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. There are no pre-FLPMA oil and gas leases in this portion. Post-FLPMA oil and gas leases presently cover approximately 33,220 acres. Approximate acreage of present leasing categories for oil and gas are as follows: 13,454 acres in Category 1; 7,980 acres in Category 3; and 13,066 acres in Category 4. There are 640 acres of post-FLPMA geothermal leases in the area that would be designated wilderness. Impacts would be essentially the same as described in the All Wilderness Alternative. New mineral claims could not be located, and oil, gas, and geothermal leases could not be renewed on this land. Activities on existing leases within the designated wilderness would occur subject to the stipulations issued at the time of leasing.

In the 15,000-acre area that would not be designated wilderness, there are 2,680 pre-FLPMA oil and gas leases. Post-FLPMA oil and gas leases cover approximately 10,400 acres. Approximate acreage of present leasing categories for oil and gas are as follows: 11,296 acres in Category 1; 1,920 acres in Category 3; and 1,784 acres in Category 4. There are 960 acres of post-FLPMA geothermal leases. Impacts in this area would be essentially the same as described in the No Action Alternative.

It cannot be determined how much of the existing potential resource of 10 million barrels of in-place oil and less than 60 billion cubic feet of natural gas falls within the area that would be designated as wilderness under this alternative. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated to be recoverable. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 2 million barrels of oil and 13 billion cubic feet of natural gas could be foregone. This would allow recovery of 1 million more barrels of oil and 5 billion more cubic feet of natural gas than with the All Wilderness Alternative.

It is concluded that, due to the small size of the potential deposits, the low certainty that they exist, and the low likelihood for exploration and development activities, this Partial Wilderness Alternative is not expected to result in any significant loss in recovery of the oil, gas, and geothermal resource.

### Locatable Minerals

Approximately 2,500 acres of mining claims fall within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b).

It cannot be determined how much of the potential in-place 50,000 tons of lead/zinc and 10 tons of beryllium in the WSA fall within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits are not included in mining claims filed before designation, the potential for recovery of 35,000 tons of lead/zinc and 7 tons of beryllium would be foregone in the wilderness portion of the unit. This would allow for recovery of 15,000 more tons of lead/zinc and 3 more tons of beryllium than the All Wilderness Alternative.

Because these metals are not being recovered at present within the WSA and economic considerations (i.e., transportation, low potential, etc.) are unfavorable, it is unlikely that exploration or development would occur, even without wilderness designation. Therefore, this alternative would not prevent recovery of significant amounts of lead/zinc and beryllium.

## WILDLIFE

The disturbance of up to 128 acres (0.26 percent) of the WSA from mineral and energy exploration and development could affect wildlife habitat. Table 10 summarizes the acreage of wildlife habitat that would be included in the portion of the

TABLE 10
**Wildlife Habitat Acreages for Partial Wilderness Alternative**

| Habitat | Designated Area (Acres) | Nondesignated Area (Acres) |
|---|---|---|
| Crucial winter range for mule deer | 34,500 | 14,292 |
| High priority yearlong habitat for pronghorn antelope | 110 | 990 |
| Yearlong habitat for chukar partridge | 1,539 | 361 |
| Winter habitat for chukar partridge | 729 | 171 |
| Critical yearlong use for golden eagle | 34,500 | 15,000 |

Source: USDI, BLM, 1973a.

WSA that would be designated wilderness, and the acreage included in the area that would not be designated.

Impacts to wildlife in the area that would not be designated would be the same as those described under the No Action Alternative and impacts in the area that would be designated would be the same as those described under the All Wilderness Alternative.

However, when considering the WSA as a whole and the amount of wildlife habitat that could be subject to surface-disturbing activities, impacts to wildlife are expected to be insignificant.

## FOREST RESOURCES

Because all the commercial timber is located in that portion of the WSA that would be designated as wilderness, the impacts would be the same as under the All Wilderness Alternative. There are approximately 1,100 acres of commercial timber, but a large portion is inaccessible. There are 23,000 acres of pinyon-juniper but only 1,500 acres are accessible. Harvest of approximately 55 acres of commercial timber would be foregone. Harvest of approximately 1,500 acres of pinyon-juniper woodland, with a potential of 5,375 cords of firewood and 1,280 juniper posts, would also be foregone. Impacts from this alternative would be low due to availability of the resource outside the WSA, lack of demand, and accessibility (only 5 percent of the timber and 6.50 percent of the woodland products are presently accessible).

## LIVESTOCK AND WILD HORSES

The effect of designation of 34,500 acres of the WSA as wilderness on domestic livestock grazing would be essentially the same as with the All Wilderness Alternative. Of the 1,433 AUMs allocated, 305 would be within the designated portion of the WSA and 1,128 within the nondesignated portion. Development of future roads or other new livestock management facilities for use with 305 AUMs in the designated portion could be restricted to preserve wilderness values. Because only one spring project is currently planned which would be located in the designated portion of the WSA and motorized vehicles are seldom used in livestock management, little effect on the management of livestock grazing is expected. Wild horses would not be affected.

## VISUAL RESOURCES

There are 35,145 acres of Class A scenery and 14,355 acres of Class C scenery within the WSA. Most of the Class A scenery would be included in the area that would be designated wilderness and would thus be protected.

Because total surface disturbance in the WSA would be 128 acres under this alternative as opposed to 240 acres under No Action and 80 acres under All Wilderness, the impact on visual resources would be less than under the No Action Alternative and slightly more than under the All Wilderness Alternative.

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through continuation of the ORV closure, and through closure of the entire area to future mineral leasing and location.

In the portion of the WSA that would be designated, the possible mineral-related surface disturbance would be approximately 56 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded, and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation, some permanent localized degradation could be expected. If roads for development of valid mining claims could not be denied (worst-case analysis), VRM Class I objectives may not be met on large portions of the designated portion. However, because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole.

In the portion of the WSA that would not be designated, 72 acres of mineral-related exploration and development are possible. Even though mitigative measures would be applied to minimize visual

contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in VRM Class II areas during the short term. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole.

### RECREATION

Impacts on recreational values and opportunities for the 34,500-acre area that would be designated as wilderness would be as described in the All Wilderness Alternative. Existing primitive recreation use would continue and could increase by an unknown amount as a result of publicity from wilderness designation. Little impact on ORV recreational use would be expected due to the lack of such activity in the area; however, approximately 8 miles of ways within the WSA would be closed to ORV use.

If roads for development of valid mining claims could not be denied, the quality of primitive recreational opportunities would be reduced. Because the potential for mineral production is low and wilderness designation would reduce the potential for surface disturbance, the quality of the primitive recreational experience would likely be preserved throughout the designated portion of the area.

In the area that would not be designated (15,000 acres), little change in recreational use is expected due to the limited recreational values.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Mineral and energy related exploration and development are possible on 72 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, roads and ways created for mineral and energy exploration and development would improve access into the area for nonprimitive recreation.

### WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 34,500 acres that would be designated wilderness.

All of the area that would be designated meets the *Wilderness Act* criteria for naturalness. All 32,175 acres that meet the *Wilderness Act* criteria for outstanding opportunities for solitude and primitive recreation and special features (including 77 wild horses, 1,100 acres of bristlecone pine, 110 acres of fossils, and four caves) would be in the designated portion. All of these wilderness values, including size, would be preserved. There are approximately 2,325 acres that do not meet the criteria.

Although recreational use could increase (refer to Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected. There could be some loss of wilderness values due to allowable surface disturbance.

Wilderness designation would contribute to the preservation of the area's wilderness characteristics. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through ORV closure (8 miles of ways), and through closure of the entire area to future mineral leasing and location.

No development of leases on the designated portion is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 240 acres in the No Action Alternative to 128 acres for development of valid mining claims in this Partial Wilderness Alternative. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. Because there are 2,500 acres (5 percent of the WSA) under mining claims and the potential for mineral development is low, mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive and unconfined recreation on the affected areas and could reduce these values in the area as a whole until the disturbed areas are satisfactorily reclaimed. However, since the potential for mineral production is low and mitigation would be imposed to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

In the 15,000-acre nondesignated area, there would be 72 acres of disturbance from mineral and energy exploration and development activities. This nondesignated area does not meet the

*Wilderness Act* criteria for outstanding opportunities for solitude or primitive recreation and contains approximately 3 miles of ways.

The related surface disturbance would result in a significant loss of naturalness and outstanding opportunities for solitude and primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area. However, the potential for mineral development and related disturbance is low in this WSA. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunity for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

For the 34,500 acres designated as wilderness, this alternative would relate to the Land Use Plans and Controls section as described for the All Wilderness Alternative.

### SOCIOECONOMICS

Partial designation of this WSA is not expected to result in any changes in existing patterns and trends of population, employment, and local income distributions.

The 1,433 AUMs (305 AUMs in the designated and 1,128 AUMs in the nondesignated portion) would remain available to cattle in the Antelope, Sand Pass, Tatow, and Swasey Knolls Allotments.

The existing grazing use would remain as at present. Approximately $28,660 of livestock sales and $7,165 of ranchers' returns to labor and investment would continue. Approximately $2,006 annual Federal grazing fee revenues from the 1,433 AUMs also would continue. In the area that would not be designated, the ability to maintain, replace, and build new range improvements would not change.

The existing ability to explore and develop mineral resources would remain as at present on the nondesignated 15,000 acres. In this area, oil and gas leases cover approximately 13,080 acres. At $1 to $3 per acre, lease rental fees would generate up to $39,240 of Federal revenues annually. Approximately 960 acres are under lease for geothermal resources. At $1 to $4 per acre, lease rental fees would generate up to $3,840 of Federal revenues annually.

There are 136 acres in the nondesignated portion open to oil and gas leases that currently are not leased. If leased, they would bring from $1 to $3. This would amount to up to $408 additional Federal lease fee revenues per year in addition to new royalties from lease production. There are 12,256 acres open to geothermal leasing that are currently not leased for geothermal resources. If leased, they would bring from $1 to $4 additional Federal lease revenues per year per acre, depending on the amount of diligent development. This would bring up to $49,024 additional Federal lease fee revenues per year in addition to possible royalties from lease production. Half of these monies would be allocated to the State, a portion of which could reach the local economy. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

The required $100 annual expenditure per claim for labor and improvements would continue. An undetermined part of this money is spent in the local economy.

No income would be generated from commercial timber because this resource is all located in the designated portion of the WSA as would be most of the expected recreational use.

In the portion of the WSA that would be designated, livestock use and ranchers' income would amount to $6,100 of livestock sales and $1,525 of ranchers' return to labor and investment. Major improvements for increasing livestock use would be foregone along with any resulting increase in ranchers' income. No such potential range improvements have been proposed.

The loss of 21,434 acres that could be leased under the No Action Alternative in this portion would cause an eventual loss of up to $64,302 per year. The loss of 640 acres now leased for geothermal resources would cause an eventual loss of up to $2,560 per year. There would also be a potential loss of $83,176 annually in Federal revenues from geothermal leases on 20,794 acres that could be leased without designation. In addition to these rental fees, any potential royalties from new lease production could also be foregone.

Because all the commercial timber is located in the designated portion, wilderness designation would eliminate most woodland product harvesting and related Federal revenues. Present harvest from the WSA generates about $685 annually in Federal revenues.

Since most recreation would probably occur in the designated portion, the existing and projected use would continue and could increase due to publicity from wilderness designation. However, since only a portion of these expenditures contributes to the local economy, recreation-related expenditures attributable to this portion of the WSA likely would not be significant to the local economy.

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# Howell Peak WSA

# HOWELL PEAK WSA
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# HOWELL PEAK WSA
# (UT-050-077)

## INTRODUCTION

### General Description of the Area

The Howell Peak Wilderness Study Area (WSA) consists of approximately 24,800 acres of public land in northwestern Millard County, Utah. The WSA is located approximately 45 miles west of Delta, Utah. Major features include Howell Peak (elevation 8,348 feet), Antelope Peak (elevation 7,805 feet), caves, and trilobite fossil beds. Principal land uses are livestock grazing and low intensity recreation. The WSA is roughly 8 miles long and 8 miles wide at its widest point.

In general, vegetation is typical of the other mountain ranges in the region with a variety of shrubs and grasses throughout the WSA and pinyon-juniper at the higher elevations.

Climate is typical of the Great Basin: limited precipitation, low relative humidity, high frequency of clear skies, and large annual and daily ranges in temperature. Precipitation ranges from 12 to 20 inches annually depending on elevation. Temperature ranges have been recorded at 13.2 degrees to 94.9 degrees Fahrenheit (F), depending on season and elevation.

### Specific Issues Identified in Scoping

General issues pertaining to all of the WSAs are discussed in Volume I. One specific issue pertaining to the Howell Peak WSA was identified through formal public scoping (USDI, BLM, 1984c) and is responded to below.

1. *Comment:* The oil and gas (mineral) potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be high. This information should be considered in the Draft Environmental Impact Statement (EIS).

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated from Detailed Study

No alternatives were identified for this WSA other than those analyzed.

### Alternatives Analyzed

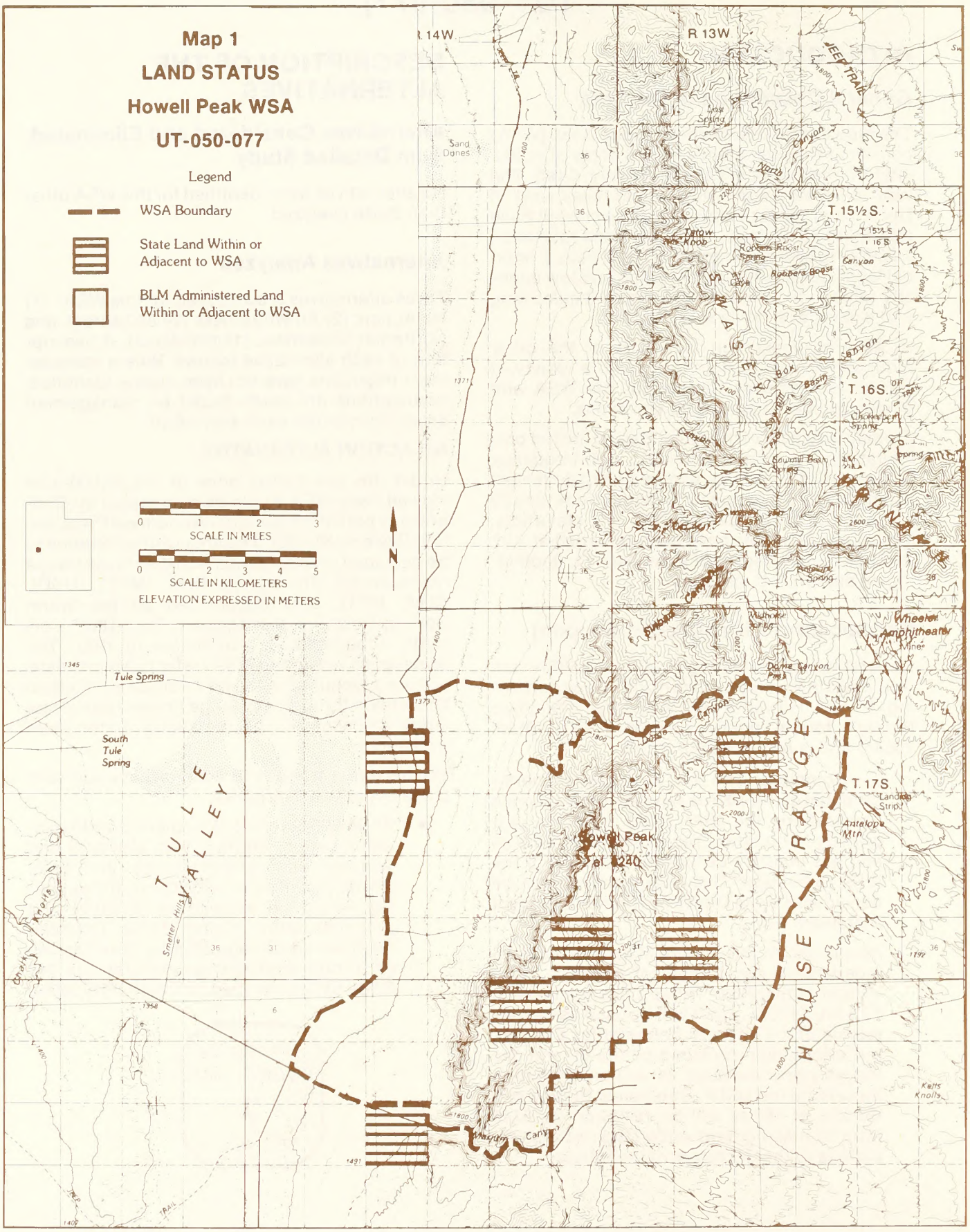
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (24,800 acres); and (3) Partial Wilderness (14,800 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative.

#### NO ACTION ALTERNATIVE

Under this alternative, none of the 24,800-acre Howell Peak WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the House Range Management Framework Plan (MFP) (USDI, BLM, 1971), until superseded by the Warm Springs Resource Management Plan (RMP) currently scheduled for completion in 1987. The State lands within the WSA (refer to Map 1) have not been identified in the MFP for special Federal acquisition through exchange or purchase. State lands are analyzed as remaining under State ownership.

The following are specific actions that would take place under this alternative:

- All 24,800 acres would remain open to mineral location, leasing (with standard and special lease stipulations), and sale. Development work, extraction, and patenting would be allowed on existing and potential future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809).


Map 1
LAND STATUS
Howell Peak WSA
UT-050-077
Legend
WSA Boundary
State Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
R 14W
R 13W
T. 15½ S.
T. 16S.
T. 17S
Tule Spring
South Tule Spring
TULE VALLEY
HOUSE RANGE
Howell Peak el. 6240
Antelope Mtn
Wheeler Amphitheater Mine
Landing Strip
Sand Dunes
Jeep Trail
Robbers Roost
Dome Canyon
Kelts Knolls

The entire WSA (24,800 acres) is leased for oil and gas. Existing oil and gas leases could be developed under leasing Category 1 (standard stipulations) on about 16,340 acres and Category 3 (no surface occupancy) on about 5,160 acres. Approximately 3,300 acres are in Category 4 (no leasing).

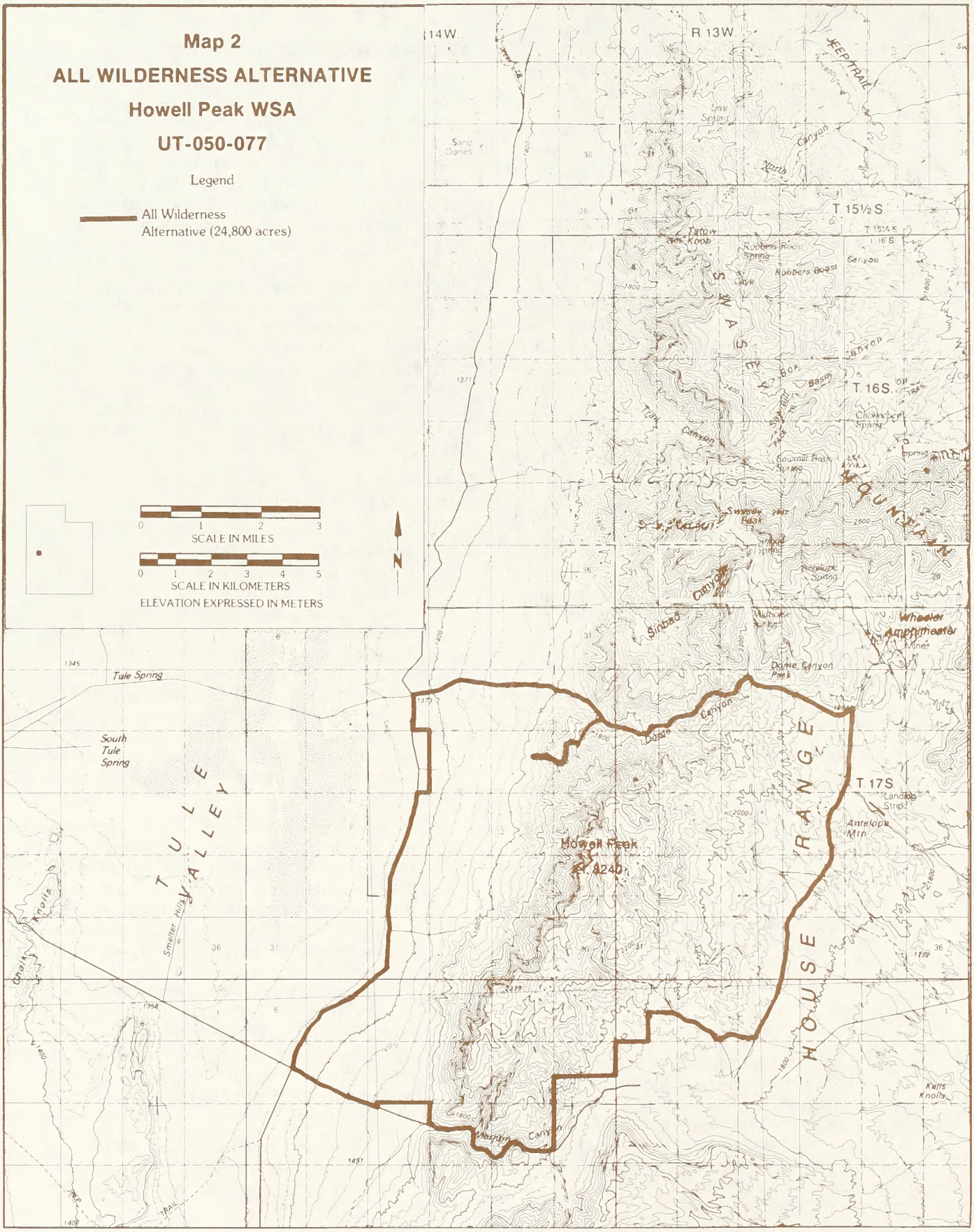
- The present domestic livestock grazing use of the 24,800-acre area of the WSA would continue as authorized in the MFP (1,349 Animal Unit Months [AUMs]). Future planning efforts could conceivably change allocations in the entire 24,800-acre area. Although none are now proposed, new range facilities and improvements could be implemented without wilderness considerations.
- The 24,800 acres would remain undesignated for off-road vehicle (ORV) use until completion of the Warm Springs RMP wherein ORV categories would be established. The 7 miles of existing ways would remain open for public use. New access could be developed.
- The entire 24,800-acre area would continue to be open to harvest of forest products; however, there is no harvest at the present time and none is planned.
- The area would continue to be managed under Visual Resource Management (VRM) Class II (496 acres), Class III (16,368 acres), and Class IV (7,936 acres).
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

## ALL WILDERNESS ALTERNATIVE

Under the All Wilderness Alternative, all 24,800 acres of the Howell Peak WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981b) to preserve its wilderness character. Upon designation, acquisition of four sections of State land (2,560 acres) within the WSA is likely, and would be authorized by purchase or exchange (refer to Volume I for further information regarding State in-holdings.) Two State sections adjacent to the WSA likely would not be exchanged (refer to Map 1). Should land transfers be made, it is assumed that management and types of impacts would be the same as those on adjacent Federal lands and no specific analysis is given here. The figures and acreage given under this alternative are for Federal lands only.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 24,800 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 3,636 acres of existing mining claims that may be determined to be valid. Existing oil and gas leases, involving the entire 24,800 acres, and geothermal leases on 3,700 acres would be phased out upon expiration unless a find of oil or gas or geothermal resources in commercial quantities is shown.
- Present domestic livestock (sheep) grazing would continue as authorized in the House Range MFP. The 1,349 AUMs in the WSA would remain available to livestock as presently allotted. After designation, new livestock facilities and range improvements (there are none existing) would be allowed if consistent with wilderness protection standards (refer to Appendix 1). No areas within the WSA currently have been identified for future vegetation manipulation or new range facilities for livestock. Use of the WSA by wild horses (about 10 in winter and 20 in summer) would continue to be allowed.
- New water resource facilities or watershed activities would be allowed after designation only if compatible with wilderness

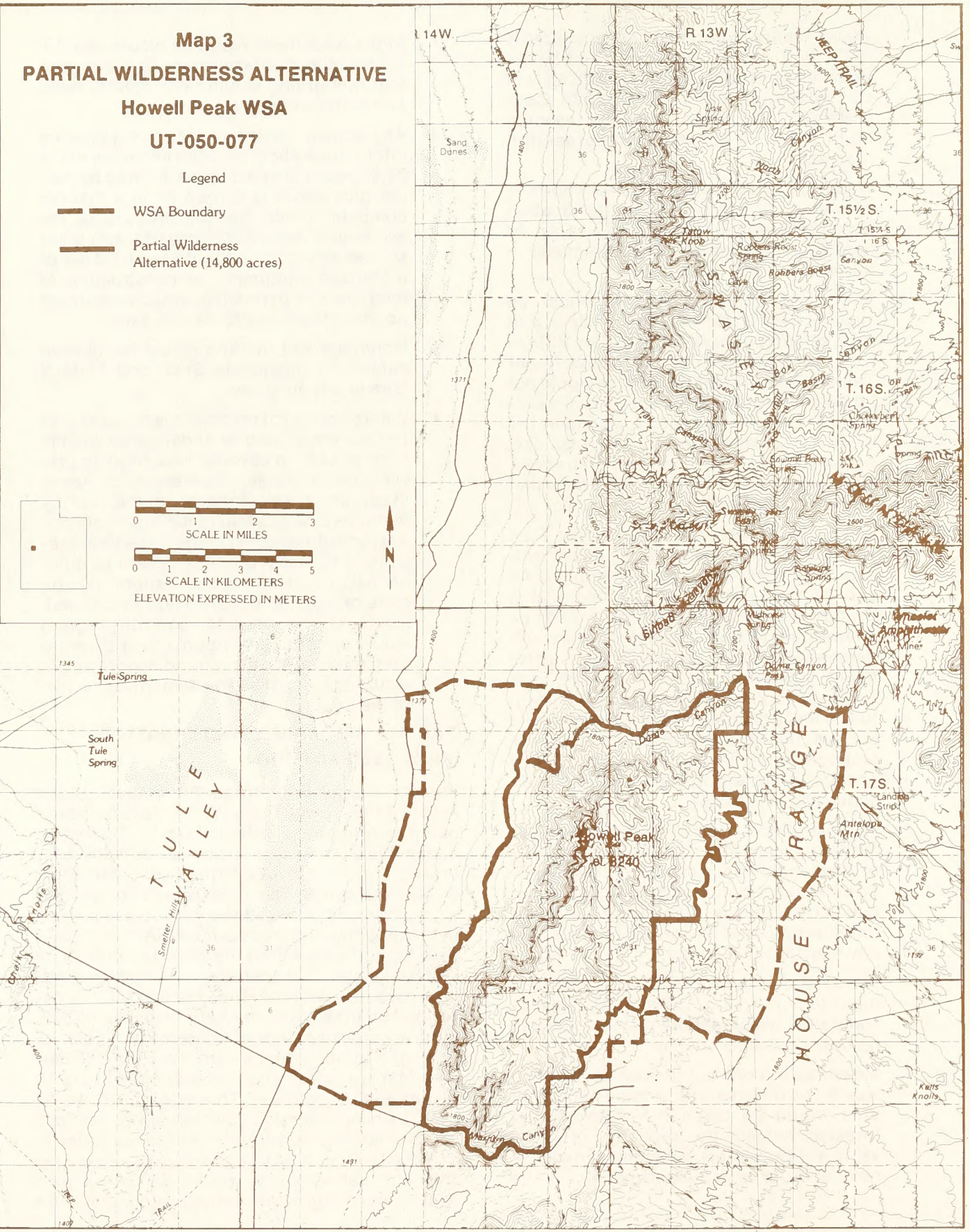

Map 2
ALL WILDERNESS ALTERNATIVE
Howell Peak WSA
UT-050-077
Legend
All Wilderness Alternative (24,800 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
R 14W.
R 13W.
T. 15½ S.
T. 16S.
T. 17S
SNAKE MOUNTAIN
TULE VALLEY
HOUSE RANGE
Howell Peak
Tule Spring
South Tule Spring
Dome Canyon
Antelope Mtn
Kells Knolls
Smelter Hills
Sand Dunes
Robbers Roost Spring
Chokecherry Spring
Wheeler Amphitheater Mine
Landing Strip

values needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are presently planned.

- Wildlife transplants and habitat improvements would be allowed after designation if compatible with wilderness values. At this time, none are existing or planned in this WSA.
- The entire 24,800-acre area would be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. About 7 miles of existing vehicular ways would not be available for vehicular use. A 1-mile section of "cherry-stemmed" road within the WSA would stay open to vehicular use. About 23 miles (or 73 percent) of the WSA boundary follow existing gravel roads that would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 24,800-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in current military use of the air space above the WSA.
- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is no harvest of forest products at the present time, nor is any specifically planned.
- Visual resources on 24,800 acres would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 24,800-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that firefighting would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources in the 24,800-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

For the Partial Wilderness Alternative, 14,800 acres of the Howell Peak WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to analyze as wilderness that portion of the WSA with the most outstanding wilderness values. The 14,800 acres analyzed as wilderness under this alternative include primarily the mountaintop areas of the WSA. The 10,000-acre foothill area within the WSA but outside of that designated as wilderness would be managed in accordance with the House Range MFP as described for the No Action Alternative. The 14,800-acre area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative. This alternative would likely involve Federal acquisition of two sections of State land by purchase or exchange (refer to Volume I). One of two State sections adjacent to this alternative likely would be exchanged. Assumptions regarding analysis and impacts for


Map 3
PARTIAL WILDERNESS ALTERNATIVE
Howell Peak WSA
UT-050-077
Legend
WSA Boundary
Partial Wilderness Alternative (14,800 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
R 14W
R 13W
T. 15½ S.
T. 16S.
T. 17S.
Howell Peak el. 8240
TULE VALLEY
HOUSE RANGE
SNAKE
Tule Spring
South Tule Spring
Sand Dunes
Dune Canyon
Robbers Roost
Antelope Mtn
Kelts Knolls
Smelter Hills
Chalk Knolls
Jeep Trail
Landing Strip

State lands involved in the Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. The figures and acreages under this alternative are for Federal lands only.

A summary of specific actions follows:

- The 14,800-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. In the 14,800-acre area development work, extraction, and patenting would be allowed to continue on 2,596 acres of existing mining claims, provided that they are valid. The existing oil and gas leases, that cover 14,800 acres, and geothermal leases, that cover 1,920 acres, would be phased out upon expiration unless a find in commercial quantities of oil or gas or geothermal resources is shown. The 10,000-acre area not designated wilderness would be open to mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (52 claims) and future mining claims could occur in the 10,000-acre area if claims are valid. The area not designated would be managed as oil and gas leasing Category 1 (standard stipulations) on about 9,680 acres and Category 3 (no surface occupancy) on about 320 acres. Development of existing leases (10,000 acres) and future leases in this area could be developed without concern for wilderness values.
- Domestic livestock (sheep) grazing would continue to occur in the 14,800-acre wilderness area. The 647 AUMs in the 14,800-acre area would remain available to livestock as presently allotted. Forage used by wild horses would continue to be allowed. No livestock facilities now exist nor could any be developed in the 14,800-acre wilderness unless consistent with wilderness protection standards (refer to Appendix 1). In the 10,000-acre nonwilderness area grazing use would continue as authorized in the MFP (702 AUMS). New range facilities and improvements could be developed in this area without concern for wilderness values, although none are now proposed. Future planning efforts could conceivably change range allocation in the 10,000-acre area.
- In the 14,800-acre wilderness new water resource facilities or watershed activities would be allowed only if compatible with wilderness, needed to correct imminent hazards to life or property, or authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 10,000-acre area water resource developments would be allowed if in accordance with the MFP, although none are now proposed.
- In the 14,800-acre wilderness, wildlife transplants or habitat improvements would be allowed if compatible with wilderness values. In the remaining 10,000-acre area wildlife transplants or improvements would be allowed with no concern for wilderness values. None are now proposed.
- The mountains that would comprise the 14,800-acre wilderness would be closed to ORV use. About 3 miles of existing ways would not be available to vehicular use. A 1-mile length of "cherry-stemmed" road within the wilderness would stay open to vehicular use. The remainder of the unit (10,000 acres), including the existing gravel roads that border the WSA (and the northern and southern edges of the partial wilderness), would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 14,800-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in current military use of the air space above the WSA.
- Harvest of forest products in the 14,800-acre wilderness would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining 10,000 acres would be open to woodland harvest.
- Visual resources on the 14,800-acre wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 10,000 acres would

be managed as VRM Classes III and IV as outlined in the House Range MFP.

- Within the 14,800-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that, in the 14,800-acre area, firefighting would be limited to hand and aerial methods. In the 10,000-acre nonwilderness area measures of control would be taken without wilderness considerations.
- In the nonwilderness area of the Howell Peak WSA, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 14,800-acre wilderness such activity would be allowed by permit provided it would be compatible with wilderness protection. Information gathering would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures.
- Hunting and fishing would be allowed subject to applicable State and Federal laws and regulations in the nonwilderness area. In the 14,800-acre wilderness, hunting would be subject to applicable laws and regulations but also would be limited to nonmotorized means.
- Throughout the 10,000-acre nonwilderness area control of predators would be allowed without wilderness consideration to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the 14,800-acre wilderness area, control of predators would be allowed to protect such wildlife species or livestock, but only under conditions that would assure minimal disturbance to wilderness values. Poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences that would result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section describes the affected environment. Unless otherwise indicated, information for this section was taken from BLM technical reports and documents.

### Air Quality

The WSA is located in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. This classification permits moderate air quality deterioration. Existing air quality and visibility are generally excellent throughout the year. Visual range usually is 70 miles or more during the summer (Environmental Protection Agency, 1979). The nearest Class I PSD area is Capitol Reef National Park, 115 miles to the southeast.

### Geology

The Howell Peak WSA is located in the Basin and Range Physiographic Province. In general, this province is characterized by low rainfall, internal drainage, and short north-south trending block-fault mountain ranges.

The WSA is in the middle of the House Range, a 50-mile-long blockfaulted mountain range in west-central Utah. Elevations average 5,500 feet on the desert floor and rise abruptly to over 8,000 feet along the prominent west face. The two features dominating the WSA are Howell Peak and Antelope Peak. Major geologic formations exposed in the WSA consist of massive Cambrian Age limestones which are underlain by the Pioche Formation, a Cambrian quartzite. The central part of the WSA is an above-average example of Basin and Range landforms related to blockfaulting.

The eastern and western portions of the WSA have somewhat more subdued topography; slopes are less steep than the central part of the WSA, and the overall appearance is less rugged.

### Soils

The soils of the mountain slopes and ridge tops are alkaline, light brown, cobbly and stony loams. The lower alluvial fans and lake terraces are very

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## HOWELL PEAK WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (24,800 Acres) | Partial Wilderness Designation (14,800 Acres) (Proposed Action) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, 50,000 tons of lead and zinc, and 500 tons of tungsten. | Oil and gas would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these minerals, however, the loss of development opportunity would not be significant. | Although likelihood is low, up to 1 million barrels of oil, 7 billion cubic feet of natural gas, 4 tons of beryllium, 20,000 tons of lead and zinc, and 200 tons of tungsten could be recovered. |
| Wildlife | About 1 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. About 1 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat. |
| Livestock | Grazing of 1,349 AUMs would continue. There are no rangeland improvements. New developments could be constructed; however, none are now proposed. | Grazing of 1,349 AUMs would continue. Little effect on grazing management is expected. Proposed new developments might not be allowed. | Effects would be the same as for the All Wilderness Alternative. |
| Visual Resources | The quality of visual resources could be impaired on up to 256 acres. | Visual quality could be impaired on up to 90 acres. | Visual quality could be impaired on up to 188 acres (including 54 acres in the designated portion). All of the Class A scenery would be within the designated portion and would be protected by the reduced potential for disturbance. About 90 percent of the Class B scenery would also be protected. |
| Recreation | ORV use would continue on 7 miles of ways at current low levels. Overall recreational use could increase from the present 50 visitor days per year to 75 over the next 20 years. Up to 256 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 7 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 4 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## HOWELL PEAK WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (24,800 Acres) | Partial Wilderness Designation (14,800 Acres) (Proposed Action) |
| Wilderness Values | Wilderness values could be lost on up to 256 acres (1 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 90 acres (less than 1 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 54 acres which could be disturbed under valid existing rights. Additional impairment could be expected on 1.3 percent of the 10,000 acres not designated. Overall, wilderness values could be lost on less than 1 percent of the WSA. The majority of the areas of high quality wilderness values would be protected in the designated portion. The 14,800 acre designated area would encompass about 60 percent of the area that meets the standard for naturalness and 99 percent of the area that meets the standard for outstanding opportunity for solitude. None of the WSA has outstanding opportunities for primitive and unconfined recreation. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan,* State of Utah plans and policies, and the current BLM House Range MFP. | This alternative would not be consistent with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM House Range MFP or the forthcoming Warm Springs RMP. | This alternative would be about the same as for the All Wilderness Alternative. |
| Socio-economics | Annual local sales of less than $44,860 and Federal revenues of up to $76,289 would continue. | Annual local sales of less than $44,860 and Federal revenues of up to $11,889 would continue, but Federal revenues of up to $74,400 from mineral leasing would be foregone. The opportunity for future energy and mineral developments and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $44,400. |

deep, light gray, alkaline, very gravelly loams and loamy sands. There is no serious erosion condition in the WSA. Based on soil surface factors, the entire WSA is in a slight erosion condition classification. The 24,800 acres in the WSA have an average annual soil loss of 0.6 cubic yards/acre for a total soil loss of 14,880 cubic yards/year.

## Vegetation

In general, vegetation in the Howell Peak WSA is typical of the other mountain ranges in the region with a variety of shrubs and grasses throughout the WSA and pinyon-juniper at the higher elevations. Existing vegetation types are shown in Table 2.

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Pinyon-juniper | 10,416 | 42 |
| Sagebrush-horsebrush | 8,680 | 35 |
| Shadscale-horsebrush-cheatgrass | 5,704 | 23 |

Source: Foster, 1968.

According to Welsh (1979) and herbarium records, no threatened, endangered, or sensitive plant species occur within or near the WSA boundaries. There is no riparian vegetation.

The Howell Peak WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types in the WSA are listed on Table 3. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 14,880 | 60 |
| Saltbush-greasewood | 9,920 | 40 |

Source: USDI, Geological Survey, 1978.

## Water Resources

There are no springs, perennial streams, or ground water aquifers in the WSA.

## Mineral and Energy Resources

The BLM, in cooperation with the U.S. Department of Energy, had each WSA within Utah assessed for its mineral resources by SAI (1982). Refer to Appendix 5 for an explanation of the SAI rating system.

An overall importance rating (OIR) of 2 was assigned to the Howell Peak WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA. Ratings for individual mineral and energy resources are shown in Table 4.

**TABLE 4**
**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil, less than 60 billion cubic feet of gas |
| Uranium | f1 | c1 | Less than 500 tons of uranium oxide |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c1 | Low temperature resource |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f2 | c1 | Less than 50,000 tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1]Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2]Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent investigation report. Reports will be made available to the public and submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of

the Interior will also consider the reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, and tungsten that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

## LEASABLE MINERALS

There are no known occurrences of leasable minerals in the WSA. Activity related to leasable minerals in and adjacent to the WSA has been limited to leasing and minor exploration (seismic surveys and geologic mapping) for oil, gas, and geothermal resources.

### Oil and Gas

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981b). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

The geologic history of the WSA indicates that large structural traps for oil and gas are unlikely to occur; however, random small traps may exist. The favorability for oil and gas deposits occurring in the WSA is low. For this analysis it is estimated that up to 3 million barrels of oil and up to 18 billion cubic feet of gas could be recoverable from the WSA (refer to Appendix 6 for recoverability estimates). The entire WSA is leased for oil and gas. There are approximately 1,800 acres of pre-FLPMA leases for oil and gas; the remainder (23,000 acres) of the WSA has post-FLPMA leases. Present oil and gas leasing categories are: Category 1, 16,340 acres; Category 3, 5,160 acres; and Category 4, 3,300 acres.

### Geothermal

The geologic favorability for the occurrence of geothermal resources is low. There are approximately 2,200 acres of post-FLPMA geothermal leases in the WSA. Commercial potential is presently unknown.

## LOCATABLE MINERALS

There are no known occurrences of locatable base and precious metals inside the WSA. Some exploration activities have taken place but no production has resulted. There is a block of approximately 1,200 acres of unpatented mining claims in the northwest part of the WSA and another block of 1,200 acres of unpatented mining claims in the southeast part of the WSA. Other claims also exist in the WSA. A total of 176 claims covering about 3,636 acres are in the WSA as a whole.

### Beryllium

The Howell Peak WSA lies about 35 miles south of the Spor Mountain beryllium district where the world's largest known beryllium deposits occur, contained in bedded rhyolite tuffs. Beryllium minerals have been discovered in other parts of west-central Utah, particularly in Tooele and Juab Counties, and in the Mineral Range in Beaver County. These deposits are much smaller than those at Spor Mountain, and they occur chiefly in beryl-bearing pegmatites, as beryl rosettes in granite, and in fine- and coarse-grained veins. West-central Utah lies at the east end of a beryllium-rich province that extends as far west as central Nevada. The Howell Peak WSA lies in a region that is broadly favorable for beryllium although these deposits are not known to occur in or near the tract. Because of this regional favorability, there is some chance that this mineral could occur in the WSA (SAI, 1982).

### Lead and Zinc

Lead and zinc have been mined from dozens of metal-mining districts throughout Utah, but almost all are in the western half of the State. The closest lead and zinc deposits to the Howell Peak WSA with recorded production are far to the south in Beaver County. Significant production has not been recorded anywhere in Millard County. Base-metal deposits in western Utah are related chiefly to Tertiary igneous activity and associated hydrothermal alternation. The bulk of these deposits occur within two west-trending zones: the Deep Creek-Tintic mineral belt to the north of the Howell Peak WSA and the Wah Wah-Tushar mineral belt to the south of the WSA. That part of western Utah separating the two mineral belts contains only scattered and small mineral deposits and very few Tertiary igneous rocks.

The Howell Peak WSA contains favorable carbonate host rocks for lead and zinc, plus a nearby intrusive source for these metals (the Notch Peak or Painter Spring granite to the south). Exploration in the area, however, indicates that significant lead and zinc mineralization has not occurred. Furthermore, the WSA lies between the two generally recognized mineral belts in this area, although still within a region that is broadly favorable for lead and zinc. The likelihood that lead and zinc resources occur at depth in the WSA is low (SAI, 1982).

### Tungsten

Tungsten production, reserves, and resources in Utah are comparatively small. Twenty-one deposits are reported in the State and all except one are in the western side of the State within the Basin and Range Province. Small amounts of production from 12 of these deposits occurred from 1914 to 1918, from 1940 to 1947, and from 1951 to 1956. Most of these deposits occur along the metamorphosed contact between granite and limestone, but tungsten-bearing quartz veins are reported from the Tushar Mountains south of Tract 077 (SAI, 1982).

Many small bodies of scheelite-bearing tactite occur 4 miles south of the Howell Peak WSA along the contact between granite and upper Cambrian limestones. However, the ore bodies are mostly low grade and relatively small. Because the WSA lies within a region that is broadly favorable for tungsten, the possibility exists that tungsten may be found there, but the probability is considered low (SAI, 1982).

### Uranium

The Howell Peak WSA lies 60 miles north of the Wah Wah Mountains uranium-producing district and about 30 miles south of the Topaz Mountain uranium area. The Wah Wah Mountains district has yielded about 5 tons of uranium oxide. The uranium occurs in close association with high-silica alkali rhyolites of Miocene Age. At Topaz Mountain in the Thomas Range, several thousand tons of uranium ore were mined from Tertiary lacustrine rocks at the Yellow Chief Mine from 1956 to 1962. In addition, the Thomas Range contains uranium-bearing fluorspar pipes that cut Paleozoic dolomites.

Many of the base- and precious-metal deposits in western Utah (including uranium) are aligned along two west-trending belts characterized by igneous intrusive rocks of Tertiary Age. The Howell Peak WSA lies between but outside of these mineral belts; therefore, the potential for uranium in the WSA is very low (SAI, 1982).

### SALABLE MINERALS

Large quantities of limestone, as well as sand and gravel deposits, are found in the WSA; however, little interest is expressed in these resources due to the abundance of other deposits closer to centers of demand.

## Wildlife

There are approximately 50 species of mammals, 103 species of birds, 14 species of reptiles, and 1 amphibian species that inhabit the WSA at different times of the year. Although a great diversity exists, no one species could be described as being abundant. Some of the animals include mule deer, bobcat, mountain lion, and chukar. An estimated 10 mule deer utilize the WSA during the winter. The WSA generally is not used year-round by deer.

There are two endangered (bald eagle and peregrine falcon) and one sensitive species (golden eagle) that inhabit the WSA. There are no Federally designated critical habitats in the WSA.

There are no existing or proposed habitat improvement or vegetation treatment projects within the WSA. The WSA encompasses approximately 21,000 acres of lightly utilized habitat for mule deer and 5,600 acres of yearlong chukar habitat. A mule deer migration corridor extends through the WSA.

Approximately 12,000 acres of the WSA are managed under the West Desert Habitat Management

Plan (USDI, BLM, 1980a) to benefit chukar partridge, mule deer, and raptors.

## Forest Resources

There are approximately 10,416 acres of pinyon-juniper woodland capable of producing fenceposts and firewood. Currently, approximately 5,630 acres are suitable for harvest and are accessible. An additional 1,330 acres have commercial potential but are inaccessible.

The 6,960 acres of commercial and potentially commercial pinyon-juniper woodland have a total estimated volume of 26,733 cords of firewood, 4,520 fenceposts, and 2,670 pounds of pinenuts. Demand for these products in the WSA is currently low. It is estimated that approximately 30 cords of firewood have been harvested between 1979 and 1981 for private use.

## Livestock and Wild Horses/Burros

Due to the rugged terrain, there is no cattle grazing in the WSA; however, approximately 60 to 70 percent of the WSA is grazed by sheep. The WSA contains portions of two allotments used by two sheep operators. Forage production in the WSA is estimated at 1,349 AUMs, or 26 percent of the AUMs in the allotments involved (refer to Table 5).

**TABLE 5**
**Livestock Grazing Use Data**

| | Allotments | |
|---|---|---|
| | Granite | Death Canyon |
| Permittees | 1 | 1 |
| Period of Use | 11/1-4/30 | 11/1-4/30 |
| AUMs in Allotment | 1,385 | 2,426 |
| Percent of Allotment Area in WSA | 40 | 33 |
| Estimated Available Livestock Forage in WSA (AUMs) | 748 | 601 |
| Percent of Total AUMs | 27 | 24 |

Source: USDI, BLM, 1973.

There are no range improvements in the WSA, but there are ways that are used by stock operators and by BLM for administrative purposes. No areas within the WSA have been identified for vegetation manipulation or other range improvements for livestock benefits.

The WSA is in the Swasey Wild Horse Management Area. Approximately 10 horses use portions of the WSA in the winter months and up to 20 horses use the area in spring and summer. Wild horses migrate through the WSA to watering places in the Antelope Springs area in the summer and utilize snow for water in the winter.

## Visual Resources

Hermit Canyon is the only part of the WSA rated as Class A (high quality) scenery. The high rating is due to the vertical cliffs containing a variety of colors, the uniqueness of the canyon, and the lack of visual intrusions.

Higher elevations in the central part of the WSA (comprising some 66 percent of the WSA) are rated as Class B scenery. The rating is due to the moderate variety in landform (from sheer cliffs on the west to rolling hills on the east), variety in vegetation (pinyon-juniper, scattered Douglas fir, and desert shrub), and the lack of visual intrusions.

Lower foothills on the east and west sides of the WSA are rated as Class C scenery due to lack of variety in landform, vegetation, and color.

A summary of the scenic quality and VRM Classes is shown in Table 6 (terms are defined in the Glossary).

**TABLE 6**
**Visual Resource Quality and Management Class**

| Element | Acres | Percent of WSA |
|---|---|---|
| Scenic Quality | | |
| Class A | 496 | 2 |
| Class B | 16,368 | 66 |
| Class C | 7,936 | 32 |
| Management Class | | |
| Class I | 0 | 0 |
| Class II | 496 | 2 |
| Class III | 16,368 | 66 |
| Class IV | 7,936 | 32 |

Source: USDI, BLM, 1973.

## Cultural Resources

There are two prehistoric sites recorded inside the WSA. One is a cave site that has no visible artifacts and the other is a hunting site located in a small saddle. The potential for finding other sites of this type is good. One rock cabin in Hermit Canyon is the only historical site recorded; however, considering the traditional use of the area by

ranchers and sheepherders, there may be other historical sites.

There are no National Register sites or nominees in the WSA.

## Recreation

Fifteen recreational opportunities were evaluated for their quality in this WSA. Eleven of these opportunities are present in varying degrees including backpacking, spelunking, camping, dayhiking, horseback riding, hunting, nature study, photography, rock climbing, rock hounding, and sightseeing. All activities were rated average or below in quality.

The WSA has limited opportunities for extended trips due to its size and configuration; however, its size and access make it suitable for day trips. The current low recreational use is primarily related to exploring three caves and visiting the rock cabin. Some hunting and hiking probably take place as well as some four-wheel-drive use on the 5 miles of ways on the east side. The WSA is open to ORV use. Under 50 visitor days annually are attributed to all recreation activities.

## Wilderness Values

### SIZE

The WSA is approximately 24,800 acres in size. It is roughly 8 miles wide and 8 miles long at its widest point.

### NATURALNESS

The central portion of the WSA (totaling approximately 22,080 acres) is pristine. There are approximately 7 miles of ways on the periphery of the WSA. Most are substantially unnoticeable and could be rehabilitated. One exception is 2 miles of ways to active mining claims in the northern part of the WSA. Overall, the WSA meets the naturalness standards set by the *Wilderness Act*.

### SOLITUDE

Opportunities to find solitude (i.e., a secluded spot away from others) within the WSA are influenced by size, topography, vegetation, and the absence of distracting sights and sounds.

The WSA is of sufficient size to allow visitors to be unaware of others in the vicinity. Rugged topography, steep cliffs, and pinyon-juniper vegetation contribute to opportunities for solitude in 60 percent (14,880 acres) in the central portion of the WSA. Forty percent (9,920 acres) of the WSA (benchlands on the east and west sides) does not have outstanding opportunities for solitude due to the flat, unvegetated terrain.

The Howell Peak WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range, but occasional use occurs in the vicinity of the Howell Peak WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

Opportunities for primitive, unconfined recreation were evaluated by considering miles of hiking routes in relationship to the size of the WSA, the number of recreational opportunities present, and the quality of these opportunities. As discussed in the Recreation section, the WSA has diverse opportunities; however, no activities are considered outstanding in quality.

### SPECIAL FEATURES

Special features include caves and fossils. Council Cave, near Antelope Peak, has the largest entrance of any cave in Utah. It is visible from over 50 miles away. Other caves are known to exist in the WSA, but no number is available. The trilobite fossils, found in the eastern part of the WSA, would enhance a recreational visit. However, they are of lower quality and quantity than the similar fossils found a few miles north of the WSA. Approximately 10 acres of trilobite beds occur within the WSA.

## Land Use Plans and Controls

Gravel roads which are secondary travel routes border the WSA on the west, east, and south. There are no private in-holdings, private subsurface rights, or rights-of-way.

There are four State sections inside the WSA. The management strategy for all State sections is to maximize economic returns for the State School Fund. No development activities are currently occurring on these lands. They are all under oil and gas, metalliferous, and grazing lease.

Public lands are administered by the BLM under the House Range MFP (USDI, BLM, 1971), which will be superseded by the Warm Springs RMP scheduled for completion in 1987.

The *Millard County Master Plan* does not specifically address wilderness (Paul Nelson Associates, Inc., 1983). The county plan generally indicates that Federal lands in the county should be utilized to their greatest economic potential under a multiple-use concept.

## Socioeconomics

The Howell Peak WSA is located in Millard County, Utah. Most socioeconomic concerns related to the WSA are limited to the county. Delta is the nearest community, within about 45 miles of the WSA.

### DEMOGRAPHICS

Census figures for 1980 (U.S. Department of Commerce [USDC], Bureau of the Census, 1981) show a Millard County population of 8,970 (an increase of 28.4 percent since 1970). A substantial portion of the Millard County population lives in Delta (1,930) and Fillmore (2,083). The construction of the Intermountain Power Project (IPP) north of Delta adds significantly to the population of Millard County.

### EMPLOYMENT

The government (Federal, State, and local) and trade sectors are the most important in terms of employment in the Millard County economy. Farm employment makes up about 26 percent of the total employment in the county. Table 7 presents 1982 nonfarm employment figures for the county, and Table 8 presents 1982 personal income and earnings. The construction and operation of IPP comprises a significant influence on both employment and income in the county.

### INCOME AND REVENUES

Economic-related activities in the WSA include mineral exploration, livestock production, woodland production, and recreation. Table 9 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

Oil and gas leases in the WSA cover the entire 24,800 acres. At $3 per acre, lease rental fees

**TABLE 7**
**1982 Nonfarm Employment**
**Millard County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transport, Communication and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance, and Real Estate | 73 | 3.3 |
| Services | 167 | 7.6 |
| Government[1] | 739 | 33.7 |
| Total | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.
[1]Total Federal, State, and local.

**TABLE 8**
**1982 Personal Income and Earnings**
**Millard County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 40,602 | 82.7 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 5,717 | 9.0 |
| Nonfarm | 34,885 | 105.0 |
| Private | 25,315 | 110.8 |
| Agricultural Service and Other | 609 | -6.9 |
| Mining | 3,192 | 236.4 |
| Construction | 5,889 | 668.7 |
| Manufacturing | 2,454 | 69.0 |
| Transportation and Public Utilities | 3,802 | 69.8 |
| Wholesale Trade | 1,531 | 40.9 |
| Retail Trade | 4,165 | 54.2 |
| Finance, Insurance and Real Estate | 1,368 | 124.6 |
| Services | 2,305 | 48.6 |
| Government | 9,570 | 91.0 |

Sources: USDC, Bureau of Economic Analysis, 1984.

**TABLE 9**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $74,400 |
| Mining Claim Assessment | Less than $17,600 | None |
| Livestock Grazing | $26,980 | $1,889 |
| Woodland Products | $75 | $0 |
| Recreational Use | Less than $205 | None |
| Total | Less than $44,860 | Up to $76,289 |

Sources: BLM File Data; Appendix 9.
[1]Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

generate up to $74,400 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development. No oil or gas extraction has occurred in the WSA; therefore, energy resource production from the WSA has not contributed to local employment or income. The WSA has 176 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Mineral production or mine development in the Howell Peak WSA is not occurring, and there is no current financial gain due to mining.

Two livestock operators seasonally graze sheep on 1,349 AUMs of forage scattered across the two grazing allotments found in the WSA. At the current fee of $1.40 per AUM (as of March 1, 1983) these two ranchers pay $1,889 per year in Federal revenue to graze their stock within the WSA boundaries. Marketing of livestock which use the WSA contributes to local income. About $26,980 of livestock sales, including $6,745 in ranchers' return on investment and labor, is attributed to the AUMs in the WSA.

About 10 cords of firewood per year valued at about $75 per cord are presently being taken from the unit.

Recreation has not proven to be a significant income producer. Exploring caves and hunting account for most of the low use in the WSA. Revenue generated by the sale of hunting licenses to people planning to specifically hunt this WSA is considered insignificant. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for the Howell Peak WSA is estimated as about 50 visitor days/year, resulting in a total estimated annual expenditure of $205 related to the WSA. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Millard County.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines For All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas and locatable mineral exploration and development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown but would probably be low due to the WSA's rough terrain and low resource potential. The following

is a worst-case analysis, based on the assumption that minerals would be developed sometime in the future and would result in the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; lead/zinc and tungsten, 45 acres; and beryllium, 45 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed as a PSD Class II area. Disturbance of 256 acres would result in only minor increases in fugitive dust emissions.

Operation of the IPP could result in degradation of air quality up to the PSD Class II limitations. Depending on meteorological conditions, a brown haze may be visible in the Sevier Desert in the vicinity of the WSA (Bowers, 1979).

### GEOLOGY

No impacts to geology are expected because surface disturbances associated with locatable minerals (i.e., lead/zinc and beryllium), oil and gas, and geothermal exploration and development activities would probably not exceed 256 acres. This would not significantly affect geology.

### SOILS

It is estimated that up to 256 acres of soil could be disturbed by mineral and energy exploration and development. Assuming that all disturbance would occur in areas with slight erosion class (worst-case analysis) at a rate of 0.6 cubic yard/acre and that erosion condition would increase one class (to moderate at a rate of 1.3 cubic yards/acre), soil loss on the 256 acres would increase from 154 cubic yards/year to 333 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum soil loss in the WSA would increase by approximately 179 cubic yards (1.2 percent) over the current annual soil loss of 14,880 cubic yards/year. This is a small increase and the effects would likely be imperceptible.

### VEGETATION

The anticipated maximum of 256 acres disturbed would not significantly impact the WSA's pinyon-juniper, sagebrush-horsebrush, or shadscale-horsebrush-cheatgrass vegetation. No threatened, endangered, or sensitive plant species would be affected since none are known to exist in the Howell Peak WSA. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the Fish and Wildlife Service (FWS) as required by BLM policy (refer to Appendix 4). If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary actions would be taken to protect these plants, if found, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive species would be protected.

### WATER RESOURCES

There are no perennial waters in the WSA and no activities significantly affecting the quality of intermittent runoff would be expected. No significant sedimentation or change in total dissolved solids is expected to occur from an increase of 179 cubic yards of annual soil loss from surface disturbance. Opportunities for providing water in the WSA are limited.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

Under this alternative, mineral activities would be managed under the current House Range MFP. Leasing and development of these resources would be guided by existing policy and regulations. If existing oil and gas leases expire, they could be reissued. Unless revised by future BLM land use plans, the leasing categories would remain unchanged (16,340 acres, Category 1; 5,160 acres, Category 3; and 3,300 acres, Category 4).

The potential for up to 10 million barrels of oil in-place (3 million estimated recoverable) and up to 60 billion cubic feet of natural gas (18 billion estimated recoverable) exists within the WSA. These oil and gas resources could be explored and developed without wilderness considerations. Due to the small size of the oil and gas deposits and geothermal activities, no development is expected under this alternative.

#### Locatable Minerals

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. The potential deposit of up to 50 thousand tons of lead/zinc, 500 tons of tungsten, and up to 10 tons of beryllium could be developed. However, the likelihood of development is thought to be low, as noted in the Description of the Affected Environment section.

### WILDLIFE

Under this alternative, disturbance of an estimated 256 acres (1.03 percent of the WSA)

through mineral and energy development and exploration would disrupt wildlife. Mule deer and mobile nongame animals would be dispersed from the disturbed area for the lifetime of these activities. Less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels. Peregrine falcon and bald and golden eagles that inhabit the WSA would also avoid the disturbed areas. Because of the relatively low wildlife populations in the WSA, there would appear to be ample habitat for most species to adjust to the projected disturbance; therefore, no significant impacts to wildlife would occur.

### FOREST RESOURCES

Since minimal surface-disturbing activities are anticipated, no loss of forest resource harvest is expected. The potential harvest of 26,730 cords of firewood and 4,520 fenceposts from 12,950 acres of pinyon-juniper woodland would not be restricted by wilderness designation. A small, gradual increase in harvest of forest products likely would occur.

### LIVESTOCK AND WILD HORSES

Domestic livestock grazing would continue as authorized in the House Range MFP. The 1,349 AUMs currently allocated in the WSA would continue to be used by sheep owned by two livestock permittees. Additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. No range developments exist or are proposed within the WSA. Since motorized vehicles are currently used very little to manage livestock in the WSA few, if any, changes in livestock management techniques are expected.

The small herd of wild horses (approximately 10-20 animals) would continue use of the WSA as at present.

### VISUAL RESOURCES

Visual quality in the Howell Peak WSA would be affected somewhat by potential surface-disturbing activities. Approximately 496 acres would be managed under VRM Class II objectives requiring that activities not be apparent, with the remainder of the WSA managed as Class III (16,368 acres) and Class IV (7,936).

Mineral and energy related exploration and development are possible on 256 acres. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in VRM Class II areas during the short term, although Class III and IV objectives probably would be met. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole.

### CULTURAL RESOURCES

Disturbance of 256 acres by mineral and energy exploration and development under this alternative could impact cultural resources through loss and vandalism due to increased access. However, there is a small number of recorded sites, and the probability of extensive development activities is low. Inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would mitigate impacts. Inadvertent loss or damage could occur in the disturbed areas. The overall effect on cultural resources is expected to be minimal. Vandalism could be a problem and would increase in proportion to the general population increase.

### RECREATION

The quality of the user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, mineral and energy related exploration and development are possible on 256 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, roads and ways created for energy and mineral exploration and development would improve access into the area for nonprimitive recreation.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 50 current visitor days per year to 75 visitor days at the end of 20 years. Recreational activities (hunting, cave exploring, etc.) utilizing vehicular access on 7 miles of existing ways would continue to comprise most of the future recreational use.

### WILDERNESS VALUES

None of the area would be designated wilderness, and management would be under the current House Range MFP and subsequent BLM planning documents. Expected mineral and energy exploration and development could disturb an esti-

mated 256 acres. The related surface disturbance would result in a loss of naturalness and opportunities for solitude and primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area. However, the potential for mineral development and related disturbance is low; consequently, significant effect is not expected on the 14,800 acres that qualify as having outstanding opportunities for solitude in the Howell Peak WSA. Identified wilderness values would be subject to impairment from vehicle activity and harvest of forest products. This would impair naturalness; however, little effect on other wilderness values would be expected except in small, localized areas of development.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The *Millard County Master Plan* does not specifically address the wilderness issue but generally recommends multiple use on all lands in the county. This alternative would not change the present or expected use of the lands in the WSA and would be consistent with this Plan. The No Action Alternative is based on implementation of the current House Range MFP and is, therefore, in conformance with it. This alternative would also be consistent with State of Utah plans and policies which emphasize economic return.

### SOCIOECONOMICS

Under this alternative, no changes are expected in existing patterns and trends of population, employment, and local income distributions. Economic development of resources in the WSA would not be affected. Future growth in the economy of Millard County is expected to continue following the patterns of recent years, with the notable inclusion of IPP. Based on this assumption, the Utah Office of the State Planning Coordinator (1980), projects that the government sectors of both counties will not expand greatly beyond their current size while the retail trade, manufacturing, and services sectors will continue to grow at a relatively stable rate through the year 2000.

Oil and gas leases within the WSA would probably be reissued following expiration of current leases. This would result in the continuation of existing Federal revenues (refer to Table 9); however, as explained previously, these revenues do not necessarily return to the area of collections. The potential for economic benefits related to development of commercial mineral deposits in the WSA would remain. However, prospects are low and there is limited possibility that increased income from these resources would occur. Sales and Federal revenues from existing levels of domestic livestock use would continue as well as those from gradual increases in recreation and forest product harvest.

Overall, no significant impact on the local or regional socioeconomics would be expected.

## All Wilderness Alternative (24,800 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 24,800-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 7 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 90 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas would not be allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas for this alternative would be smaller than under the No Action Alternative (90 vs. 256 acres), the impacts from development and surface disturbance on air quality, geology, soils, vegetation, water, forest, and cultural resources under the All Wilderness Alternative would be insignificant as described for the No Action Alternative. Wilderness designation would provide additional protection because it would reduce potential for disturbance to these resources. Other effects on these resources due to changes in management are discussed below.

### WATER RESOURCES

Wilderness designation would have no effect on water resources because there are no live surface water, springs, or known ground water sources within the WSA.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

The entire Howell Peak WSA is under oil and gas lease (approximately 1,800 acres pre-FLPMA and 23,000 acres post-FLPMA). However, no exploration or development of oil and gas is presently

occurring within the WSA, and there are no known occurrences of leasable minerals in the WSA. Favorability for the occurrence of oil, gas, and geothermal resources is low.

Existing pre- and post-FLPMA leases could be developed subject to the stipulations issued at the time of leasing. It is unlikely that existing leases would be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be re-issued.

Exploration for and development of a potential recoverable resource of up to 3 million barrels of oil and less than 18 billion cubic feet of natural gas could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas recovery.

No geothermal development or potential use foregone would be expected with geothermal resources.

### Locatable Minerals

There are 176 mining claims covering about 3,636 acres within the WSA. There are no known commercial deposits of locatable minerals in the WSA. Potential for their occurrence ranges from low to medium.

Most existing claims are located in the northwest and southeast parts of the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. Up to 50,000 tons of lead/zinc, 500 tons of tungsten, and up to 10 tons of beryllium could occur within the WSA. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed before wilderness designation; in this case, the potential for recovery of less than 50,000 tons of lead/zinc, less than 500 tons of tungsten, and less than 10 tons of beryllium would be foregone.

Because production of these metals is not currently occurring and because economic considerations (e.g., resource depth, low potential, etc.) are unfavorable, it is unlikely that exploration or development will occur. Therefore, this alternative would not result in any significant loss of recoverable lead/zinc, tungsten, and beryllium resources.

## WILDLIFE

Under this alternative, some wildlife could benefit due to the preservation of solitude. However, water is a limiting factor for wildlife in this WSA. Overall, wilderness designation would not result in significant changes in wildlife habitat or populations. Surface disturbance of approximately 90 acres due to exploration of locatable mineral resources could result in minor local disruptions to wildlife but would not affect the area as a whole. The occasional presence of the peregrine falcon, bald eagle, and golden eagle would remain the same in much of the WSA, except on those 90 acres of active disturbance where these species would avoid the area.

## FOREST RESOURCES

Approximately 10,416 acres of pinyon-juniper woodland with a total potential production of 26,733 cords of firewood and 4,520 fenceposts would be closed to harvest. This opportunity foregone would be negligible due to low demand and the availability of similar resources outside the WSA.

## LIVESTOCK AND WILD HORSES

Present domestic livestock grazing would continue as authorized in the current House Range MFP. The 1,349 AUMs currently allocated in the WSA are used by sheep owned by two livestock permittees. Since very little use of motorized vehicles is currently taking place to manage livestock, little effect on the management of livestock grazing is expected.

New rangeland improvements would be allowed if determined necessary for the purposes of rangeland and/or wilderness protection and the effective management of these resources. However, future roads or other livestock management facilities could be restricted to preserve wilderness values. No range improvements exist or are proposed within the WSA.

Use of the WSA by wild horses (about 10 in the winter and 20 in summer) would continue to be allowed.

## VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Management class would change from Classes II and IV to the more restrictive Class I. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I, which generally allows for only natural ecological change, and through closure of the entire area to ORV use and to future mineral leasing and location. This would decrease the probability of actions that could degrade scenic quality. Under

this alternative the possible mineral-related surface disturbance would be reduced from 256 acres to 90 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized visual degradation could be expected.

If roads for development of valid mining claims (worst-case analysis) are required, VRM Class I objectives may not be met on those portions of the WSA. Because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole. The 1 mile of "cherry-stemmed" road is in the area of about half of the claims and would continue to provide access without new disturbance.

### CULTURAL RESOURCES

Approximately 90 acres (0.36 percent of WSA) could be disturbed by mineral exploration and development in areas that would be designated wilderness; however, inventories for the purposes of site recordation and mitigation of impacts would take place prior to all proposed surface disturbance and would mitigate any adverse impacts. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal.

There is a potential for increased vandalism to cultural resources due to recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

### RECREATION

Although use is currently low (about 50 visitor days a year), the WSA has recreational opportunities that could be more widely recognized and used.

Past recreation use has been fairly consistent, but is expected to increase gradually (about 2 percent per year over the next 20 years) in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would regulate any destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by any increased use. The 50 visitor days of existing use which generally involve access by vehicle in the WSA would be eliminated. Approximately 7 miles of ways within the WSA would be closed to ORV use. Because of the small amount of use and other suitable ORV areas in the vicinity of the WSA, ORV use would probably not experience an overall decline in the vicinity of the WSA.

Mineral-related surface disturbance on up to 90 acres could cause localized impairment of primitive recreation values.

It is concluded that, while this alternative would make existing access for cave exploration more difficult, it could benefit other recreation uses by reducing the likelihood for surface-disturbing activities and increasing management attention and recognition of recreational values.

### WILDERNESS VALUES

Designation and management of all 24,800 acres as wilderness would ensure the preservation of the wilderness values of naturalness and opportunities for solitude and primitive recreation. Naturalness would be preserved on all 24,800 acres. Solitude would be preserved on approximately 14,880 acres that meet and 9,920 acres that do not meet the standards for outstanding solitude. The opportunities for primitive, unconfined recreation are less than outstanding throughout the WSA (24,800 acres). The special features in this WSA (i.e., numerous caves and about 10 acres of trilobite fossil beds) would be protected and preserved. Although primitive recreational use may increase (refer to Recreation section above), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreational values would be expected.

Wilderness designation would contribute to the preservation of the area's wilderness values. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change) and through closure of the entire area to ORV use and future mineral leasing and location.

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 256 acres to 90 acres for development of valid mining claims. Mitigation to protect wilderness

values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims. Because there are 3,636 acres (14.7 percent of the WSA) under mining claims, mineral-related disturbance, including access, would eliminate naturalness and the opportunity for solitude and primitive and unconfined recreation on the affected areas. Existing mining claims are on the northwest and southeast edges of the WSA; therefore, any development on the claims would not affect the WSA as a whole. Also, because the potential for mineral production is low and mitigation would be imposed to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

Thus, it is concluded that wilderness designation and management of all 24,800 acres of the Howell Peak WSA would protect and preserve the wilderness values of naturalness, special features, and opportunities for solitude (outstanding on 14,880 acres) except in localized areas affected by the surface disturbance related to mineral exploration. In the area as a whole, no significant loss of wilderness values would be expected.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from opportunities for solitude in the WSA.

#### LAND USE PLANS AND CONTROLS

The existing House Range MFP does not provide for wilderness designation. The forthcoming Warm Spring RMP will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

The *Millard County Master Plan* favors multiple use of most public lands. This alternative would conflict with the multiple-use concept because restrictive conditions would be placed on mineral development and oil and gas leases would be phased out. If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

#### SOCIOECONOMICS

Very little local economic impact would be expected as a result of wilderness designation of Howell Peak. There would be no significant change in the economic structure of Millard County, nor would there be significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be losses in Federal revenues currently provided by resource uses in the WSA (refer to Table 9) as well as loss of potential increases in income and Federal revenues that otherwise could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Existing pre-FLPMA oil and gas leases and valid mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing local economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. The loss of 24,800 acres now leased would cause an eventual loss of up to $74,400 per year of lease fees to the Federal Treasury. In addition to these Federal revenues, any potential royalties from oil and gas production could be foregone. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $26,980 of livestock sales, including $6,745 of ranchers' return to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and would not be significant to the local economy. Motorized recreational use of the WSA is about 50 visitor days per year. With ORV closure, the decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

Overall, wilderness designation would not be expected to have significant impacts on the local or regional economy.

### Partial Wilderness Alternative (14,800 Acres)

### (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness

Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 14,800-acre area that would be designated wilderness and the 10,000-acre area that would not be designated wilderness are discussed in the Description of the Alternatives section.

It is assumed that, in the area that would be designated, some of the existing mining claims would eventually be explored and developed, causing an estimated 54 acres of disturbance. It is also assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas would not be allowed.

It is assumed that, within the area that would not be designated wilderness, 134 acres would be disturbed sometime in the future due to mineral and energy exploration and development. Overall, 188 acres of surface disturbance would occur within the WSA, 68 acres less than under the No Action Alternative and 98 acres more than with the All Wilderness Alternative. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

The analysis of the No Action Alternative, based on 256 acres of surface disturbance, shows that full development of potential resources with associated surface disturbance would not significantly affect air quality, geology, soils, vegetation, water, forest, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative which assumes 188 acres of surface disturbance.

Restrictions on management and development methods within the WSA would result in essentially the same impacts on development of water sources, mineral and energy resources, wildlife, livestock grazing, wild horses, and land use plans as described for the All Wilderness Alternative. The following analysis describes the differences between the Partial Wilderness, No Action, and All Wilderness Alternatives.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. The entire area is presently under lease. All of the 14,800 acres of oil and gas leases in the area that would be designated wilderness are post-FLPMA leases.

The 10,000 acres not designated wilderness under this alternative would remain open to leasing and claim location and development. The area includes most (approximately 90 percent) of the post-FLPMA claims. Leasing category acreages in this portion would be approximately 9,680 acres as Category 1 and 320 acres as Category 3. Most of the mineral-associated surface disturbance would be expected to occur in the area deleted. Activities on these leases would occur subject to the stipulations issued at the time of leasing.

It cannot be determined how much of the existing potential resource of 10 million barrels of in-place oil and less than 60 billion cubic feet of natural gas is within the area that would be designated as wilderness under this alternative. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated to be recoverable. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 2 million barrels of oil and 11 billion cubic feet of natural gas could be foregone. This would allow recovery of 1 million more barrels of oil and 7 billion more cubic feet of natural gas than with the All Wilderness Alternative.

It is concluded that, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of the oil and gas resource. No geothermal development or potential use foregone would be expected with geothermal resources.

### Locatable Minerals

Approximately 116 mining claims covering about 2,596 acres are within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with wilderness considerations. After designation, all other lands (including claims not determined valid) would be closed to prospecting and mining (USDI, BLM, 1981b).

It cannot be determined how much of the potential 50,000 tons of lead/zinc, 500 tons of tungsten, and 10 tons of beryllium in the WSA are within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits were not included in

mining claims filed before designation, the potential for recovery of lead/zinc and beryllium would be foregone. This would allow for recovery of about 20,000 more tons of lead/zinc, 200 more tons of tungsten, and 4 more tons of beryllium than the All Wilderness Alternative.

Because these minerals are not being recovered at present within the WSA and because economic considerations (e.g., transportation, low potential, etc.) are unfavorable, it is unlikely that development would occur even without wilderness designation. Therefore, this alternative would not prevent recovery of significant amounts of lead/zinc, tungsten, and beryllium.

### WILDLIFE

Impacts to wildlife and wildlife habitat under this alternative would be similar to those described under the No Action and All Wilderness Alternatives. Due to the low amount of wildlife use and because water is a limiting factor, designation and/or nondesignation of portions of the WSA would not significantly affect existing wildlife use. Opportunities for habitat development are limited and, therefore, would not be affected. About 78 percent (7 miles) of the deer migration corridor in the WSA would be included in the portion designated as wilderness. About 80 percent of the habitat for chukar partridge would also be within the designated wilderness.

Impacts to bald eagle and peregrine falcon (endangered species), the golden eagle (a sensitive species), and raptorial habitat would be minimal as would habitat losses due to surface disturbance of 188 acres due to mineral activities.

### LIVESTOCK AND WILD HORSES

The effect of designation of 14,800 acres of the WSA as wilderness on domestic livestock grazing and wild horses would be essentially the same as with the All Wilderness Alternative. Of the 1,349 AUMs allocated, 647 would be within the designated portion of the WSA and 702 within the nondesignated portion. Development of future roads or other livestock management facilities for use with 647 AUMs in the designated portion could be restricted to preserve wilderness values. Because motorized vehicles are used very little in livestock management, little effect on the management of livestock grazing is expected.

### VISUAL RESOURCES

Because total surface disturbance in the WSA would be 188 acres under this alternative as opposed to 256 acres under No Action and 90 acres under All Wilderness, the impact on visual resources would be less than under the No Action Alternative and about 2 times that with the All Wilderness Alternative. Wilderness designation in the 14,800-acre portion of the WSA would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change) through the ORV closure, and through closure of the entire area to future mineral leasing and location.

In the portion recommended for designation, 54 acres of surface disturbance from mineral exploration and development would cause localized long-term degradation of scenic values and exceed VRM Class I management objectives. An additional 134 acres in the nondesignated portion of the WSA would be disturbed. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. Even after rehabilitation, some permanent localized degradation would be expected. Disturbance of a total of 188 acres within the WSA would result in localized long-term impairment of visual values but would not significantly affect visual resources in the WSA as a whole. Most of the surface disturbance would be in areas of low scenic value.

### CULTURAL RESOURCES

The area that would be designated wilderness contains two known prehistoric sites. These sites would not be impacted by implementation of this alternative. Approximately 54 acres could be disturbed by mineral exploration in this area, but inventories for cultural resources conducted prior to these activities would identify the sites and mitigate any potential adverse impact to them. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal. The protection afforded by wilderness management would outweigh any potential vandalism problems caused by an increase in recreational activity in the area. The overall impact in this area would be positive.

Nondesignation of 10,000 acres would have little effect on cultural resources. Any prehistoric sites that may be found would receive protection under the National Historic Preservation Act and related regulations. Up to 134 acres could be disturbed by mineral exploration and development in the area that would not be designated. However, inventories for the purposes of site recordation and mitigation of impacts would be completed prior to any surface disturbance. Inadvertent loss or damage could occur in the disturbed area;

however, these impacts are expected to be minimal. Vandalism could be a problem and would increase in proportion to the general population increase.

The overall impact to cultural resources resulting from implementation of this alternative would be positive because of the protection afforded by wilderness management in the area that would be designated.

## RECREATION

Impacts on recreational values and opportunities for the 14,800-acre area that would be designated as wilderness would be as described in the All Wilderness Alternative. Little impact on ORV recreational use would be expected due to the lack of such activity in the area; however, approximately 3 miles of ways within the designated area would be closed to ORV use. This could make existing access for cave exploring somewhat less convenient.

Since any roads for development of valid mining claims likely would be near the perimeter of the designated area and because the potential for mineral production is low, the quality of the primitive recreational experience would likely be preserved in the designated wilderness.

In the area that would not be designated (10,000 acres), little change in recreational use is expected due to the limited recreational values. ORV use would continue in undesignated parts of the WSA.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities in the area that would not be designated wilderness. Under this alternative, mineral and energy related exploration and development are possible on 134 acres. If roads, vehicular ways, and drill pads are located throughout the undesignated area (worst-case analysis), primitive recreational opportunities could be lost. On the other hand, roads and ways created for mineral and energy exploration and development would improve access into the area for nonprimitive recreation.

## WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 14,800 acres that would be designated wilderness. Size, naturalness (all 14,800 acres are natural), and outstanding opportunities for solitude (all 14,800 acres meet the standard) would be preserved. While there are opportunities for primitive and unconfined recreation, they are not considered outstanding. The special features of numerous caves and 10 acres of trilobite beds would also be preserved. Although recreational use could increase (refer to Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low; therefore, no significant effect on solitude and primitive recreation values would be expected. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration activities on up to 54 acres. Additionally, sights and sounds of activities adjacent to the designated portion could result in slight loss of solitude and primitive recreational values within the wilderness area.

In the 10,000-acre area that would not be designated, there would be 134 acres of disturbance from mineral and energy exploration and development activities. Those activities would degrade wilderness values (naturalness, special features, and opportunities for solitude and primitive recreation) from the commencement of activities through rehabilitation. Thus, slight long-term impairment of wilderness values in the portion that would not be designated would be expected.

However, because the potential for mineral production is low and mitigation would be imposed to protect wilderness values, loss of these values under the Partial Wilderness Alternative would be less likely than under the No Action Alternative.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from opportunities for solitude in the WSA.

## LAND USE PLANS AND CONTROLS

This alternative would essentially relate to the Land Use Plans and Controls section as described for the All Wilderness Alternative.

## SOCIOECONOMICS

Partial designation of this WSA is not expected to result in any changes in existing patterns and trends of population, employment, and local income distributions. The 1,349 AUMs would remain available to sheep in the Granite and Death Canyon Allotments. Socioeconomic impacts to livestock, recreation, and locatable minerals would be similar to those discussed for the All Wilderness Alternative. Approximately $44,400 per year in Federal oil and gas leasing revenue, $30,000 less than with the All Wilderness Alternative, would be lost as leases were phased out. Although new claims and future leases could be developed in the portion not designated, the potential for significant economic increases in this area is low. Overall, the local economic impact from this alternative would be considered insignificant as would economic impacts from the No Action and All Wilderness Alternatives.

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# Conger Mountain WSA

# CONGER MOUNTAIN WSA
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# CONGER MOUNTAIN WSA
# (UT-050-035)

## INTRODUCTION

### General Description of the Area

The Conger Mountain Wilderness Study Area (WSA) contains approximately 20,400 acres of public land in western Millard County. It is located about 50 miles west of Delta in west-central Utah. Foothills are generally absent, and a sharp contrast exists between the mountains and valleys. Erosion has left a series of low peaks, ledges, and slopes. The west slopes are less steep and rugged. Vegetation cover consists primarily of pinyon-juniper, shadscale, cheatgrass, and sagebrush.

Great Basin climate is characterized by limited precipitation, low relative humidity, high frequency of clear skies, and large daily and annual temperature ranges. Precipitation in the Conger Mountain WSA averages about 8 inches at lower elevations to 10 inches on the higher slopes. Temperatures range from as low as -20 degrees Farenheit (F) in the winter to 106 degrees F in the summer.

### Specific Issues Identified in Scoping

Several concerns pertaining to the wilderness study process and/or the environmental analysis process were raised during scoping. These concerns are discussed in the Scoping section of Volume I rather than in individual analyses for WSAs.

General issues pertaining to the WSAs are also discussed in Volume I. Only one specific issue pertaining to the Conger Mountain WSA was identified through formal public scoping (USDI, BLM, 1984c), and this is responded to below.

1. *Comment:* The oil and gas (mineral) potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be at least moderate. This information should be considered in the Draft Environmental Impact Statement (EIS).

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated from Detailed Study

No alternatives were identified for this WSA during scoping other than those analyzed.

### Alternatives Analyzed

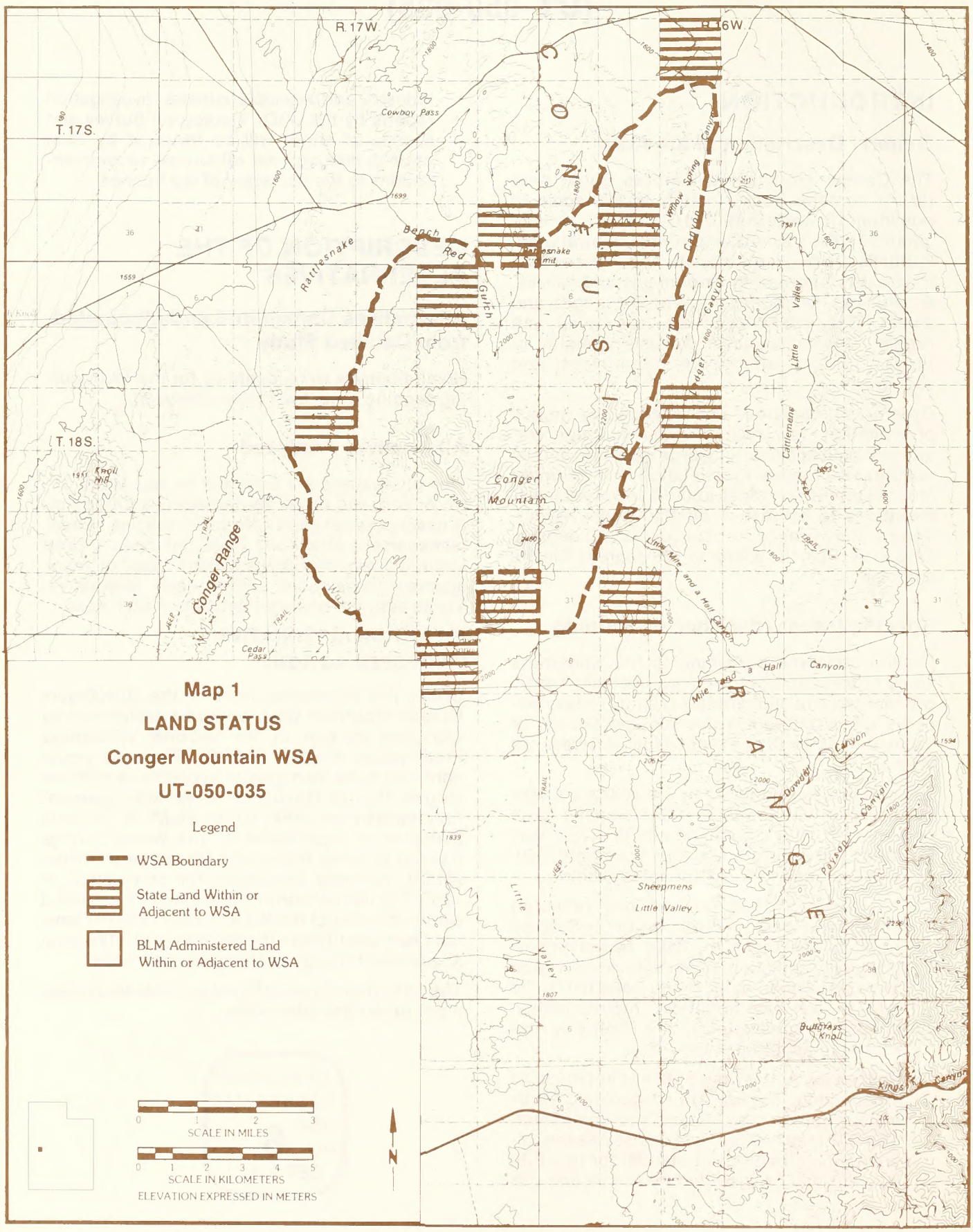
Two alternatives are analyzed for this WSA: (1) No Action; and (2) All Wilderness (20,400 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

#### NO ACTION ALTERNATIVE
#### (PROPOSED ACTION)

Under this alternative, none of the 20,400-acre Conger Mountain WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the House Range Resource Area Management Framework Plan (MFP) (USDI, BLM, 1971b) until that plan is superseded by the Warm Springs Resource Area Resource Management Plan (RMP) currently scheduled for completion in 1987. The two sections (1,280 acres) of State land within the area of the WSA (refer to Map 1) have not been identified in the MFP for special Federal acquisition through exchange or purchase.

The following are specific actions that would take place under this alternative:

STATEWIDE POCKET MAP WSA NO. 8 SEE VOL. I


R.17W.
R.16W.
T.17S.
T.18S.
Cowboy Pass
Rattlesnake Bench
Red Gulch
Rattlesnake Summit
Willow Spring Canyon
Little Valley
Cattlemens
Conger Mountain
Conger Range
Cedar Pass
Knoll Mtn.
Little Mile and a Half Canyon
Dowdy Canyon
Payson Canyon
Sheepmens Little Valley
Buttonhole Knoll
Kings Canyon
COUSE
RANGE
Map 1
LAND STATUS
Conger Mountain WSA
UT-050-035
Legend
WSA Boundary
State Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N

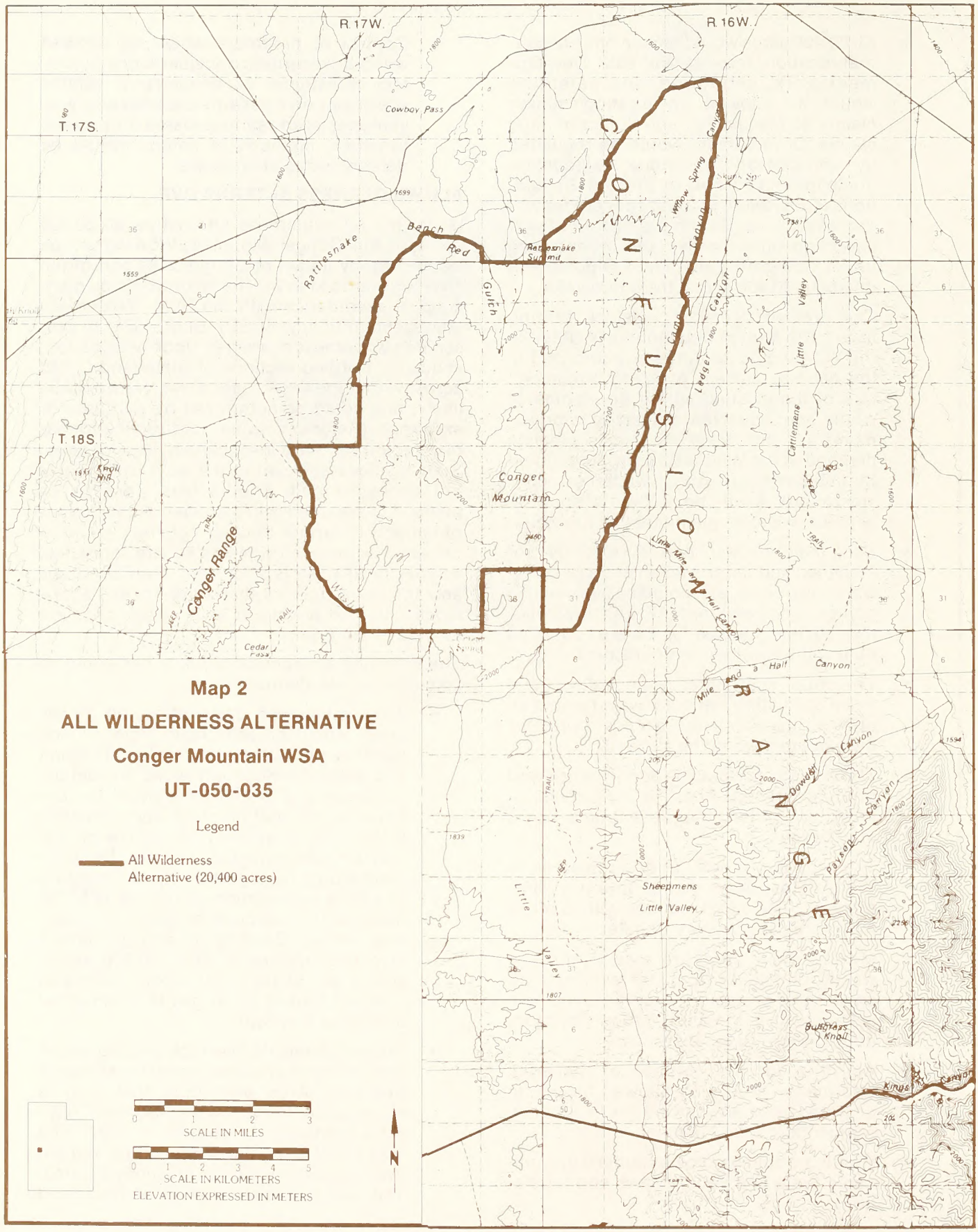
- All 20,400 acres would remain open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on existing mining claims (5,186 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation guidelines (43 Code of Federal Regulations [CFR] 3809) without concern for wilderness values. Existing leases on 20,400 acres and future leases could be developed under Category 1 (standard stipulations) on about 20,400 acres, the entire WSA.
- The present domestic livestock grazing use (1,722 Animal Unit Months [AUMs]) in the WSA would continue as authorized in the MFP or current planning document. Use of the existing spring developments would continue. New rangeland improvements (in this case, the 2-mile pipeline planned in the Willow Springs area) could be implemented without wilderness considerations. A wild horse herd of some 70 animals would be maintained in the WSA.
- Use, maintenance, and development of facilities and improvements for wildlife, water resources, etc. could be allowed if in conformance with the MFP. The three wildlife guzzlers planned for the area could be built without wilderness considerations.
- The entire WSA acreage (including the 5 miles of existing vehicular ways) would be open to use, and new access routes for development would be allowed.
- The entire area would be open to woodland product harvest. There is no harvest of forest products at the present time, nor is any planned.
- The area is currently undesignated as to Visual Resource Management (VRM) classes. VRM classifications will be made in the area as plans are updated.
- Measures to control fire, insects, noxious weeds, or disease would be taken without concern for protecting wilderness values in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

### ALL WILDERNESS ALTERNATIVE

Under the All Wilderness Alternative, all 20,400 acres of the Conger Mountain WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). The WSA would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981) to preserve its wilderness character. Upon designation, acquisition of two sections of State land (1,280 acres) within the WSA (refer to Map 1) would be likely, and could be authorized by purchase or exchange. (Refer to Volume I for further information regarding State in-holdings). Two of seven State sections adjacent to the WSA likely would not be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 20,400 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 5,186 acres of existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809), with consideration given to wilderness values. Existing oil and gas leases involving the entire WSA (20,400 acres) would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown.
- Present domestic livestock grazing would continue as authorized in the House Range Resource Area MFP until that plan is superseded by the Warm Springs RMP scheduled for completion in 1987. The 1,722 AUMs in the WSA would remain available to livestock as presently allotted. The use and maintenance of rangeland


R.17W.
R.16W.
T.17S.
T.18S.
Cowboy Pass
Bench
Red
Gulch
Rattlesnake
Rattlesnake Spring
Willow Spring
Canyon
Conger Mountain
Conger Range
Cedar Pass
Knoll Hill
Ledger Canyon
Little Valley
Cattlemens
Little Mile and a Half Canyon
Dowdy Canyon
Payson Canyon
Sheepmens
Little Valley
Buckskin Knoll
Kings Canyon
CONFUSION RANGE
Map 2
ALL WILDERNESS ALTERNATIVE
Conger Mountain WSA
UT-050-035
Legend
All Wilderness Alternative (20,400 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N

developments existing at the time of designation (in this case, one spring development) could continue in the same manner as in the past based on practical necessity and reasonableness. After designation, new rangeland developments would be allowed on a case-by-case basis if necessary for rangeland and/or wilderness resource protection and management. The only rangeland development presently planned in the WSA is a 2-mile pipeline in the Willow Springs area. It is assumed that development of the pipeline would be allowed under this alternative as long as special criteria to protect wilderness values (refer to Appendix 1) are met. A wild horse herd of some 70 animals would be maintained in the WSA.

- New water resource facilities or watershed activities not related to rangeland or wildlife management would be allowed after designation only if they would enhance wilderness values, correct conditions presenting imminent hazard to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are located in the Conger Mountain WSA, and none are currently planned.
- Wildlife transplants or developments would be allowed after designation only if compatible with wilderness values. There are no existing wildlife water developments in this WSA. Three water guzzlers are planned. It assumed that the guzzlers could be allowed after wilderness designation, as long as criteria to protect wilderness values (refer to Appendix 1) are met.
- The entire 20,400-acre area would be closed to off-road vehicle (ORV) use except for: (1) users with valid existing rights if approved by BLM in accordance with 43 CFR provisions; or (2) for occasional and short-term vehicular access approved by BLM for maintenance of approved livestock developments. About 5 miles of existing vehicular ways would not be available for vehicular use except as indicated above.
- A specific Wilderness Management Plan would be developed that would govern use and protection of the 20,400-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads that are adjacent to or "cherry-stemmed" into the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of the air space over the WSA.
- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is no harvest of forest products at the present time, nor is any specifically planned.
- Visual resources would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken must be those having the least adverse impact to wilderness values (i.e., those that least alter the landscape or disturb the land surface). Therefore, it is assumed that firefighting would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by

methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences resulting from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section briefly describes the affected environment. Unless otherwise cited, information for this section was derived from the House Range Resource Area Unit Resource Analysis (USDI, BLM, 1971a) and other BLM technical reports and documents.

### Air Quality

Air quality in the WSA is generally good to excellent. The Conger Mountain WSA is in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. Panoramas of the Great Basin blockfaulted mountains are greatly enhanced by the generally excellent air clarity. The WSA is in an area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

### Geology

The Conger Mountain WSA lies in west-central Utah, in the eastern portion of the Basin and Range Physiographic Province. This area varies in elevation from 5,200 to 8,070 feet and is characterized by a series of generally north-south trending blockfaulted mountain ranges and sedimentary basins. Numerous Cenozoic volcanic features (often associated with blockfaulting) are present and also constitute prominent landforms. Conger Range is an average example of the blockfaulted mountains characteristic of the Great Basin. This current topography, however, represents only a late state in the geologic history of the area. Prior to Basin and Range faulting, the rocks of this region were folded, faulted, and thrust eastward by compressional forces from the west. Thousands of feet of generally shallow water carbonates and clastics were deposited here. A major uplift during the Mesozoic (Sevier orogeny) stripped away deposits as old as Ordovician from western Utah.

The WSA's topography is an average example of Basin and Range relief. The Confusion Range rises above the surrounding valleys, trending generally north-south along blockfault planes. Because these are blockfaulted mountains, foothills are generally absent; a moderate contrast exists between mountains and adjacent valleys.

### Soils

There are two general soil associations in this WSA. One association is comprised of soils with shallow, moderate to strongly alkaline, and extremely cobbly, loam, clay loam, and silt loam textures. They are developed from residuum from igneous and sedimentary material. The other is comprised of very deep, gravelly loams, sandy loams, and loamy sands. They are calcareous, moderately alkaline, and formed in alluvium derived dominantly from limestone.

The entire 20,400 acres within the WSA are in the slight erosion condition class with no serious erosion problems. Erosion condition class is based on soil surface factors (refer to Glossary). Normal annual soil loss in this condition class would approximate 12,240 cubic yards or 0.6 cubic yard/acre.

### Vegetation

According to Cronquist, Holmgren, Holmgren, and Reveal (1972), the Conger Mountain WSA lies within the Bonneville Basin section of the Great Basin Division of the Intermountain Region. In general, the vegetation is typical of the other mountain ranges in the Basin. Existing vegetation types found in the WSA are shown in Table 2. The only riparian vegetation in the WSA is associated with Willow Springs.

No threatened or endangered plant species are known to occur in the WSA. *Astragalus callithrix*, a sensitive plant species, grows near the northwest boundary of the WSA.

## CONGER MOUNTAIN WSA

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## CONGER MOUNTAIN WSA

| Resource | Alternatives | |
|---|---|---|
| | No Action (Proposed Action) | All Wilderness (20,400 Acres) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, 50,000 tons of lead and zinc, and 500 tons of tungsten. Low temperature geothermal energy could also be developed. | Oil, gas, and geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. |
| Wildlife | About 1.4 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. Construction of 3 guzzlers would be of benefit to wildlife. | Wildlife would benefit from solitude. The proposed guzzlers could be built if special criteria for protection of wilderness values are met. |
| Livestock | Grazing of 1,722 AUMs and maintenance of existing developments would continue. Proposed new developments, consisting of 2 miles of pipeline, could be constructed. | Grazing of 1,722 AUMs and maintenance of existing developments would continue. Little effect on grazing management is expected. The proposed pipeline could be constructed if special criteria to protect wilderness values are met. Developments proposed in the future might not be allowed. |
| Visual Resources | The quality of visual resources could be impaired on up to 286 acres. | Visual quality could be impaired on up to 120 acres. |
| Recreation | ORV use would continue on 5 miles of ways at current low levels. Overall recreational use could increase from the present 163 visitor days per year to 243 over the next 20 years. Up to 286 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 5 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. |
| Wilderness Values | Wilderness values could be lost on up to 286 acres (1.4 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 120 acres (0.6 percent of the WSA) which may be disturbed by development of valid mineral rights. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan,* State of Utah plans and policies, and the current BLM House Range MFP. | This alternative would not be consistent with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM House Range MFP. |
| Socio-economics | Annual local sales of less than $60,208 and Federal revenues of up to $63,611 would continue. | Annual local sales of less than $60,208 and Federal revenues of up to $2,411 would continue, but Federal revenues of up to $61,200 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. |

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Utah juniper | 12,852 | 63 |
| Shadscale, horsebrush-cheatgrass | 2,040 | 10 |
| Sagebrush | 5,508 | 27 |

Source: USDI, BLM, 1971a.

The Conger Mountain WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are pinyon-juniper woodland and saltbush-greasewood, as listed on Table 3. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 14,688 | 72 |
| Saltbush-greasewood | 5,712 | 28 |

Source: USDI, Geological Survey, 1978.

## Water Resources

Willow Springs is the only water source within the WSA. It has been developed by BLM and produces a low volume of water. Skunk Spring and Conger Spring, located adjacent to and near the WSA respectively, have also been developed by BLM. Table 4 shows flow and present use for these three springs.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

The potential for mineral resources in this WSA is low due to a marginally favorable geologic environment. An overall importance rating (OIR) of 2 was assigned to the Conger Mountain WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

**TABLE 4**
**Water Availability**

| Spring | Flow in Gallons Per Minute | Use |
|---|---|---|
| Willow | 1-2 | Wild horses, antelope, sheep. |
| Skunk[1] | 3-4 | Wild horses, antelope, sheep. |
| Conger[1] | 7-8 | Wild horses, antelope, sheep. |

Source: USDI, BLM, 1971a.

[1] Located outside the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

All resources were assigned favorabilities of f2 or less. The energy and mineral resources rating summary is given in Table 5.

**TABLE 5**
**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f1 | c1 | Little to none |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c1 | Low temperature resource |
| Hydropower | f1 | c4 | None |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f2 | c1 | Less than 50,000 tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, and tungsten that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

## LEASABLE MINERALS

There are no known deposits of leasable minerals in the WSA. There are no current exploration, drilling, or mining activities for leasable minerals occurring in the WSA. None of the leases show evidence of commercial quantities.

### Oil and Gas

As of March 1984, all 20,400 acres of the WSA were under oil and gas lease. Approximately 13,668 acres of these leases are pre-FLPMA and 6,732 acres are post-FLPMA (USDI, BLM, 1984b).

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations which require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

The entire WSA is in Category 1 (open to leasing with standard stipulations). Approximately 10 million barrels of oil in-place (3 million estimated recoverable) or 60 billion cubic feet of natural gas (18 billion estimated recoverable) could occur within the WSA. Refer to Appendix 6 for estimates of recoverability.

Based on geographic location, this WSA has low potential for the occurrence of oil and gas (SAI, 1982).

### Geothermal

Because of low temperatures, this resource could probably be used only for direct heating, and most likely would be uneconomic to extract. There are no geothermal leases in the WSA.

## LOCATABLE MINERALS

Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation. After that date, all other lands (including claims not determined valid) within wilderness would be closed to prospecting and exploration (USDI, BLM, 1981).

There are no known commercial deposits of locatable minerals in the Conger Mountain WSA. No claim is currently producing commercial quantities. Although a validity determination must be made on all claims on a case-by-case basis, the favorability and certainty ratings indicate that no claim is likely to be determined valid. Potentials are difficult to determine because no known exploration has occurred.

Currently there are 251 mining claims limited to the southwest corner of the WSA, involving 5,186 acres. Approximately 50,000 tons of lead/zinc and 500 tons of tungsten could occur within the WSA. The WSA has almost no potential for uranium (SAI, 1982).

## SALABLE MINERALS

There are no commercial deposits of salable minerals in the WSA. There are scattered deposits of sand, gravel, and limestone. However, sand and gravel are common in the area, and there are deposits closer to existing and possible future market areas. Low prices, high transportation costs, and large statewide reserves usually limit these materials to local markets. Generally, no demand is foreseen for salable minerals in the WSA.

## Wildlife

The Conger Mountain WSA provides habitat for a variety of animal species. There are 51 mammal species, 103 bird species, 14 reptile species, and one amphibian species that inhabit the area at different times of the year. Although a great diversity exists, no one species could be described as abundant.

There are approximately 10 deer and 15 antelope found in the WSA year-round; 20 deer are found in the WSA during the winter only.

There is no Federally designated critical habitat inside the WSA boundaries. There are approximately 16,000 acres of high priority winter range for mule deer (Herd Unit 62B) and 1,800 acres of high priority yearlong habitat for pronghorn antelope (Southwest Desert Herd Unit). In addition there are 1,900 acres of yearlong habitat for chukar partridge inside the WSA. These habitats are lightly used at the present time because of low population numbers.

Two endangered species, bald eagle and peregrine falcon, and one BLM sensitive species, golden eagle, is found in the WSA. Most of the area inside the WSA is considered crucial yearlong habitat for the golden eagle.

There are no existing wildlife improvements within the WSA. Under the West Desert Habitat Management Plan (USDI, BLM, 1980b), three water guzzlers are planned within the WSA boundaries.

There are no existing or planned vegetation manipulation areas within the WSA boundaries.

## Forest Resources

There are approximately 12,852 acres identified as woodland vegetation type within the WSA, predominantly juniper with some pinyon. Of the total, 9,392 acres are unsuitable for harvest operations because of slopes in excess of 40 percent which prohibit economic recovery of the resource. The 3,460 suitable acres could produce about 31,851 cords of fuelwood and 3,116 fenceposts. No commercial demand for woodland products has been demonstrated in the WSA. There is no record of any commercial use being made of the woodland products of this area nor have there been any permits issued for woodland products from the BLM Office. Some limited harvesting has taken place by local ranchers.

## Livestock and Wild Horses/Burros

Portions of two sheep allotments fall within the WSA. Seventy to 80 percent of the WSA is usable by livestock and 1,722 AUMs are provided within the WSA. Refer to Table 6 for allotment information.

**TABLE 6**
**Livestock Grazing Use Data**

| | Allotments | |
|---|---|---|
| | Skunk Spring | Brown Wash |
| AMP completed | Yes | No |
| Number of Permittees | 3 | 1 |
| Period of Use | 11/1-4/15 | 11/1-3/31 |
| Percent of Allotment Area in WSA | 30 | 39 |
| Number of AUMs in WSA | 801 | 921 |
| Number of AUMs in Allotment | 1,426 | 2,608 |
| Percent of Allotment AUMs in WSA. | 56 | 35 |

Source: USDI, BLM, 1971a.

Improvements consist of one spring development in the Skunk Springs Allotment. The Skunk Springs Allotment Management Plan proposes piping water from Willow Springs via a 2-mile pipeline. No additional range improvements are proposed. There are several existing ways used extensively by livestock operators for access to sheep camps and water hauling; BLM also uses ways to supervise livestock operations and maintain existing studies.

There are approximately 60 wild horses whose use is well distributed throughout this WSA. BLM plans to maintain about 70 wild horses in the Conger Mountains.

## Visual Resources

The north and west slopes of the WSA are gently rolling tan hills dotted with dark-green juniper and scattered pinyon trees. The southern and eastern slopes are much steeper, with light-gray limestone outcrops. Pinyon-juniper and some pinyon trees are interspersed along the lower slopes and on the plateau above the outcrop. Most of the mountain is in a natural condition, with only a few roads, water developments, and horse trails.

Ninety-seven percent (19,788 acres) of the WSA is Class B scenery. This rating is due to the variety in landform, vegetation, and color. The remaining 3 percent (612 acres) of this WSA is Class C scenery. These lands consist primarily of flats and benchlands, having little variation in landform, color, or vegetation. No VRM evaluation has been completed on this WSA.

## Cultural Resources

There has been no cultural resource inventory conducted in the WSA. Two prehistoric sites have been recorded in adjacent areas. The WSA has a medium potential for camp and cave sites, and good potential for finding sites associated with hunting and wild-food gathering.

There are no potential National Register sites or nominations in the WSA.

Ranchers and sheepherders have long used the WSA; however, there are no recorded historical sites.

## Recreation

The Conger Mountain WSA is a remote mountain range in the West Desert. Recreation resources and subsequent recreation use are limited. There are approximately 163 visitor days use attributed to recreation in the area. Of these, 98 visitor days are attributed to hunting, 33 days to collecting of fossils, and 32 days to zoological sightseeing (primarily wild horses). ORV use is limited to the existing 5 miles of ways and generally occurs in association with other recreational activities. ORV use is expected to remain low.

There are no recreation facilities in or adjacent to the WSA. Roads that form the WSA boundaries provide access to the area. Two roads on the north end of the range penetrate 1.5 miles inside the WSA. There are numerous livestock and wild horse trails that can be used for access.

Fifteen recreational opportunities were evaluated for their quality in the WSA. Thirteen recreational opportunities were found to exist in varying degrees. No activities were found to have outstanding quality.

Rockhounding, horseback riding, and wildlife observation were determined to be of average quality. The remaining 10 recreational activities considered were determined to have below average quality due to one or more of the following reasons: size and configuration of the area, lack of water, lack of destinations and distinctive features, low scenic quality, or minimal wildlife numbers.

There are no specific management actions in the MFP regarding recreation resources for Conger Mountain.

## Wilderness Values

### SIZE

This WSA contains approximately 20,400 acres of public land; this acreage meets the size requirements set by the *Wilderness Act*. The WSA is approximately 6 miles wide (east to west) and 9 miles long.

### NATURALNESS

Approximately 5 miles of ways within the WSA were found to be substantially unnoticeable during the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980a). Otherwise, the WSA is free from man-made intrusions. Therefore, the entire WSA meets the naturalness criteria for wilderness designation.

### SOLITUDE

Topographic screening is adequately provided by the general variety in topography. There are over a dozen small canyons penetrating the WSA from the perimeter that shield hikers from the sights and sounds of others. Elevations within the WSA vary between 5,200 and 8,l00 feet. Vegetation adequate to provide screening is relatively sparse in most of the WSA, with pinyon-juniper found only above the 7,000-foot level. Approximately 70 percent (14,280 acres) meets the standard for outstanding opportunities for solitude set by the *Wilderness Act*.

The Cowboy Pass road to the north would be visible from within the WSA, and the sights and sounds of traffic could tend to adversely affect one's solitude; however, this road is lightly traveled.

Approximately 30 percent (6,120 acres) of the WSA does not have outstanding opportunities for solitude because of sparse, low-growing vegetation and relatively flat topography.

The Conger Mountain WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are

15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range but occasional use occurs in the vicinity of the Conger Mountain WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

As discussed in the Recreation section, no activities were found to have outstanding opportunities. The quality of recreational opportunities overall in the WSA is less than outstanding and does not meet the standards for opportunities for primitive, unconfined recreation set by the *Wilderness Act*.

### SPECIAL FEATURES

The only special feature identified is the herd of 70 wild horses that roam in the WSA. While many areas in the western states have wild horse herds, actual sightings by the casual visitor are a relatively rare occurrence.

## Land Use Plans and Controls

There are no private in-holdings, private subsurface rights, or rights-of-way in the WSA.

There are two State sections within the WSA and seven adjacent State sections. The management philosophy for all State sections is to maximize economic returns for the State School Fund. Except for grazing, no activities are presently occurring on these sections, although these are under lease for oil and gas.

The *Millard County Master Plan* (Paul Nelsen Associates, Inc., 1981) does not specifically address wilderness. The County believes that Federal lands in the county should be generally utilized to their greatest economic potential under a multiple-use concept.

The WSA is managed under the House Range MFP which allows multiple use as discussed in the description of the No Action Alternative. The House Range MFP will be replaced by the Warm Springs RMP in 1987.

## Socioeconomics

### DEMOGRAPHICS

The Conger Mountain WSA is located in Millard County approximately 50 miles west of Delta, Utah.

Census figures for 1980 (U.S. Department of Commerce [USDC], Bureau of the Census, 1981) show a Millard County population of 8,970, an increase of 28.4 percent since 1970. A major portion of the Millard County population lives in Delta (1,930) and Fillmore (2,083). The construction of the Intermountain Power Project (IPP) will add significantly to the population of Millard County.

### EMPLOYMENT

The government sector (Federal, State, and local) is the most important in terms of employment in Millard County economy. Farm employment makes up about 26 percent of the total employment in Millard County. Table 7 presents first quarter 1982 employment figures for Millard County. The construction of IPP is also having, and will continue to have, a significant impact on both employment and income in the county.

**TABLE 7**
**1982 Nonfarm Employment**
**Millard County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transport, Communication, and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance, and Real Estate | 73 | 3.3 |
| Services | 167 | 7.6 |
| Total Federal, State, and Local Government | 739 | 33.7 |
| Total | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.

### INCOME AND REVENUES

Table 8 shows personal income and earnings of $40,602,000 for Millard County in 1982. Nonfarm activities account for approximately 85.9 percent of the total income whereas farm activities account for the remaining 14.1 percent.

**TABLE 8**
**1982 Personal Income and Earnings**
**Millard County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 40,602 | 82.7 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 5,717 | 19.0 |
| Nonfarm | 34,885 | 105.0 |
| Private | 25,315 | 110.8 |
| Agricultural Service and Other | 609 | -6.9 |
| Mining | 3,192 | 236.4 |
| Construction | 5,889 | 668.7 |
| Manufacturing | 2,454 | 69.0 |
| Transportation and Public Utilities | 3,802 | 69.8 |
| Wholesale Trade | 1,531 | 40.9 |
| Retail Trade | 4,165 | 54.2 |
| Finance, Insurance and Real Estate | 1,368 | 123.6 |
| Services | 2,305 | 48.6 |
| Government | 9,570 | 91.0 |

Source: USDC, Bureau of Economic Analysis, 1984.

Economic-related activities in the WSA include mineral exploration, livestock production, and recreation. Table 9 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 9**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $61,200 |
| Mining Claim Assessment | Less than $25,100 | None |
| Livestock Grazing | $34,440 | $2,411 |
| Recreational Use | Less than $668 | No commercial permits |
| Total | Less than $60,208 | Up to $63,611 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

The WSA has 251 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. The geophysical exploration that has been conducted in the WSA has generated some temporary local employment and income. No oil and gas or mineral production has occurred in the WSA. Therefore, mineral and energy resource production from the WSA has not contributed to local employment or income.

Four livestock operators have a total grazing privilege of 1,722 AUMs within the WSA. If all this forage were utilized, it would account for $34,440 of livestock sales and $8,610 of ranchers' returns to labor and investment.

Some woodland products are harvested from the WSA; however, the harvests have been small and are insignificant to the local economy and only of minor significance to those involved in the harvest.

The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Conger Mountain WSA is estimated as about 163 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Millard County.

The WSA generates Federal revenues from mineral leases, livestock, and recreation sources (refer to Table 9).

Oil and gas leases in the WSA cover the entire 20,400 acres. At $1 to $3 per acre, lease rental fees generate up to $61,200 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA can use up to 1,722 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $2,411 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from: (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas, geothermal, and locatable mineral exploration and development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown but would probably be low due to the WSA's rough terrain and limited resource potential. The following is a worst-case analysis based on the assumption that minerals would be developed sometime in the future and cause the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; beryllium, 60 acres, and lead/zinc/tungsten, 60 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area. A possible surface disturbance of 286 acres from mineral and energy exploration and development would result in only minor increases in fugitive dust emissions. Operation of IPP could result in degradation of air quality up to the Class II limitation. Depending on meteorological conditions a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979).

### GEOLOGY

No impacts to geology are expected because disturbances associated with mineral and energy exploration and development activities would involve only the surface or widely spaced wells and would probably not exceed 286 acres. This would not change the geologic structure of the area.

### SOILS

Analysis indicates that up to 286 acres could be subject to surface-disturbing activities related to mining claim assessment work, mining development, geothermal, and oil and gas exploration. This could result in increased erosion where it occurred. The entire WSA is in a slight erosion condition class.

Assuming that all disturbance would occur in areas with slight erosion class (worst-case analysis) and that erosion condition would increase one class to moderate, soil loss on the 286 acres would increase from 0.6 cubic yard/acre or 172 cubic yards/year to 1.3 cubic yards/acre or 372 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 200 cubic yards (1.6 percent) over the current annual soil loss of 12,240 cubic yards/year to 12,440 cubic yards/year. This is a small increase and the effects would likely be imperceptible.

## VEGETATION

Analysis indicates that up to 286 acres could be subject to surface-disturbing activities related to mining claim assessment work, mineral development, and geothermal and oil and gas exploration. Development of mining claims on 120 acres could permanently modify small portions of existing and potential vegetation types by changing soil characteristics. However, the anticipated maximum of 286 acres disturbed would not significantly change any major vegetation type in the WSA.

One sensitive plant species, *Astragalas callithrix*, occurs on the northwest boundary of the WSA. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the Fish and Wildlife Service (FWS) as required by BLM policy. If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these plants if found, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive species would be preserved with the No Action Alternative.

## WATER RESOURCES

Due to low precipitation, lack of water in this WSA, and projected land uses, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 200 additional cubic yards of annual soil loss from surface disturbance.

Opportunities for future watershed developments and expansion of existing water sources could occur as allowed in accordance with the House Range MFP until that plan is superseded by the Warm Springs RMP. No watershed developments are currently planned.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

The potential for up to 10 million barrels of oil in-place and up to 60 billion cubic feet of natural gas exists within the WSA. These oil and gas resources could be explored and developed, subject to Category 1 stipulations and would not be affected by the adoption of this alternative. Approximately 160 acres of surface disturbance would take place if exploration and development were to occur. However, due to the small size of these deposits, no development is expected under this alternative.

*Geothermal*

There is a possibility that 6 acres could be disturbed from geothermal exploration and development activities; however, because there is no demand for the limited heat source (steam would be used for direct thermal heating only) no development is expected under this alternative.

### Locatable Minerals

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. The potential deposit of up to 10 tons of beryllium, up to 50,000 tons of lead/zinc, and up to 500 tons of tungsten could be developed. Approximately 120 acres could be disturbed due to exploration and development of these locatable mineral resources. However, the likelihood of development is thought to be minimal because of economic considerations (e.g., transportation, low potential, etc.).

## WILDLIFE

Under this alternative, wildlife could benefit by an increase in the availability of water through the construction of the three planned water guzzlers. An estimated disturbance of 286 acres (1.4 percent of the WSA) through mineral and energy exploration and development would not significantly disrupt wildlife in the WSA as a whole. Mule deer, pronghorn antelope, chukar partridge, and mobile nongame animals would avoid areas of localized disturbance for the lifetime of these activities. Less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels. Birds of prey would avoid areas of active disturbance; however, no significant long-term impacts are expected to occur to any of these species.

Two endangered species, bald eagle and peregrine falcon, and one sensitive species, golden eagle, are found within or near the WSA. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy (refer to Appendix 4). If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be

taken to protect these birds of prey, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive species would be preserved with the No Action Alternative.

Wildlife transplants could be allowed if in conformance with the MFP; however, none are planned.

### FOREST RESOURCES

There is no commercial timber in the WSA. Existing pinyon-juniper products are unlikely to be utilized because of inaccessibility, scattered locations, and the availability of higher quality resources closer to population centers. Therefore, this alternative would probably not result in any loss or harvest of forest resources.

### LIVESTOCK AND WILD HORSES

Present livestock use and maintenance of existing improvements could continue. The proposed Willow Springs pipeline could be constructed without regard for wilderness values. No additional range improvements are planned.

Domestic livestock grazing would continue as authorized in the MFP or current planning document. The 1,722 AUMs currently allocated in the WSA are controlled by four livestock permittees. Existing roads and ways could continue to be used and additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. Few, if any, changes in livestock management are expected.

A herd of about 70 wild horses would continue use of the WSA as at present.

### VISUAL RESOURCES

Although the entire 20,400 acres could be subject to surface-disturbing activities, it is probable that only 286 acres would be disturbed. This disturbance could have a negative impact on the visual character of these lands, but the impact would be minimal due to the small acreage and low scenic quality of the lands involved. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. VRM objectives would probably not be met in VRM Class II areas during the short term. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area for energy and mineral exploration and development (worst-case analysis), visual quality in the WSA could be significantly reduced. The probability of extensive energy and mineral exploration and development is low; therefore, no significant impact to visual resources would be expected under this alternative.

New rangeland improvements, such as the 2-mile pipeline and the three wildlife guzzlers planned for the area, could degrade visual quality in localized areas during the period of activity.

### CULTURAL RESOURCES

Disturbance of 286 acres by mineral exploration and development under this alternative could impact cultural resources through loss and vandalism due to increased access. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would mitigate impacts. Inadvertent loss or damage could occur in the disturbed area. The overall effect on cultural resources is expected to be minimal. Vandalism would increase in proportion to the general population increase.

### RECREATION

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 163 current visitor days per year to 243 visitor days at the end of 20 years. Assuming that the 2-percent increase would be uniform among all recreation uses in the WSA, primitive recreational use (collecting of fossils) would increase from the estimated current use of 33 visitor days per year to about 49 visitor days per year over the next 20 years. Likewise, recreational activities utilizing vehicular access (hunting and zoological sightseeing, primarily for wild horses) would increase from 130 visitor days per year to 194 visitor days. ORV play activity is limited and is expected to remain low.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, 286 acres of mineral-related exploration and development are possible. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, minimal adverse impacts to recreation values are

expected due to the small acreage of potential disturbance and the low likelihood that minerals would be developed. ORV use on 5 miles of ways would continue. Roads and ways created for energy and mineral exploration and development would improve access into the area for nonprimitive recreation.

### WILDERNESS VALUES

If the WSA were not designated, the wilderness values would not receive the degree of protection afforded by application of the "Wilderness Management Policy," and management would be under the existing MFP. Projected mineral exploration and development, expected to be concentrated on 286 acres, are unlikely to have any significant adverse impacts on wilderness values of the WSA as a whole. Under a worst-case analysis, the entire WSA would be subject to oil and gas and geothermal exploration; however, wilderness values are unlikely to be diminished in the immediate future. Existing land uses are expected to continue as they have in the past. Five miles of ways, totaling 9 acres of imprints, would remain open.

The mineral-related surface disturbance would result in a significant loss of naturalness, solitude, and opportunities for primitive, unconfined recreation throughout the WSA as whole if roads, vehicular ways, and drill pads are located throughout the area. However, the potential for mineral development and related disturbance is low in this WSA. Therefore, even though nondesignation would not provide the protection afforded by application of the "Wilderness Management Policy," wilderness values would be unlikely to be diminished due to lack of resource development potential.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The *Millard County Master Plan* does not specifically address this area but generally recommends multiple use in the county. This alternative would not change the present or expected multiple land uses in the WSA and is, therefore, in conformance with the Master Plan. The No Action Alternative is based on implementation of BLM's current MFP and is therefore, in conformance with it. This alternative would be consistent with State of Utah plans and policies which emphasize economic return.

### SOCIOECONOMICS

Future growth in the economy of Millard County is expected to continue following the patterns of recent years with the notable inclusion of IPP. There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain as at present. If the oil and gas, geothermal, beryllium, lead, zinc, and tungsten in the WSA were developed, it would lead to an increase in employment and income for Millard County. However, the probability of economic development of minerals within the WSA is low (refer to the Mineral and Energy Resources section for a description of mineral and development potentials).

There would be no livestock-related economic losses because the existing grazing use (1,722 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. Livestock sales would remain at approximately $34,440 per year and ranchers' return to labor and investment would be about $8,610 per year.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Because recreational use in the area is estimated to increase only 80 visitor days per year over the next 20 years and overall recreation-related expenditures average only $4.10 per visitor day (only a portion of which contributes to the local economy), recreation-related expenditures attributable to the WSA would likely not be significant to the local economy.

Federal and State revenues would not be reduced by this alternative. Up to $61,200 of annual Federal revenues from oil and gas lease rental fees would continue. Half of these monies would be allocated to the State, a portion of which could reach the local economy. Collection of livestock grazing fees ($2,411 per year) would continue. About 50 percent of the increased revenues would be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (20,400 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 20,400-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be

placed in leasing Category 4 (closed to leasing). About 5 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM, as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that mining claims would eventually be explored and developed, causing an estimated 120 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas or geothermal resources would not be allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas would be smaller than under the No Action Alternative (120 vs. 286 acres), the impacts on air quality, geology, vegetation, water, livestock, visual, cultural, recreation, and wilderness resources from mineral exploration and development would be insignificant, as described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce the potential for disturbance. Other effects on these resources due to changes in management are discussed below.

## SOILS

Up to 120 acres are likely to have surface-disturbing activities related to assessment work and mining development. This could result in increased erosion in these areas, which are in a slight erosion condition class. Assuming that all disturbance would occur in areas with slight erosion class (worst-case analysis) and that erosion condition would increase one class to moderate erosion class, soil loss on the 120 acres would increase from 0.6 cubic yard/acre or 72 cubic yards/year to 1.3 cubic yards/acre or 156 cubic yards/year. This amount of soil loss is 216 cubic yards/year less than under the No Action Alternative. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined. Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 0.69 percent over current annual soil loss. This is a small increase, and the effects would likely be imperceptible.

## WATER RESOURCES

Opportunities for additional improvements or expansion of existing water improvements could occur on a case-by-case basis if found compatible with wilderness values. Mineral exploration and development in the area is generally confined at or near the surface or with widely spaced wells and would not significantly impact ground water.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

Approximately 20,400 acres (13,668 acres pre-FLPMA and 6,732 acres post-FLPMA) are under oil and gas leases. However, no exploration or development of oil and gas is presently occurring within the WSA. There are no known occurrences of leasable minerals in the WSA. Potential for the occurrence of oil and gas resources is rated as low.

Existing pre- and post-FLPMA leases could be developed subject to the stipulations issued at the time of leasing. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration date, and expired leases will not be reissued.

Exploration for and development of a potential resource of up to 10 million barrels of oil in-place and less than 60 billion cubic feet of natural gas (with 3 million barrels of oil and 18 billion cubic feet of natural gas recoverable) could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas recovery.

*Geothermal*

Because there is only a low potential for economic development of geothermal energy in the WSA even without wilderness designation, there would not be a significant impact to the geothermal resource with this alternative.

### Locatable Minerals

There are no known commercial deposits of any locatable minerals in the WSA. Potential for their occurrence is low. Mining claims are limited to 5,186 acres in the southwest corner of the WSA.

Up to 10 tons on beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten could occur within the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to protecting wilderness values. If minerals are located prior to wilderness designation, it is estimated that up to 120 acres

could be disturbed due to exploration and development of the locatable mineral resources. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case the potential for recovery of up to 10 tons of beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten would be foregone. Considering the potential mineral resources in the WSA, their likelihood for development, and their availability elsewhere, this alternative would have little or no overall impact on locatable minerals.

### WILDLIFE

Under this alternative, some wildlife could benefit due to the preservation of solitude. However, water is a limiting factor for wildlife in this WSA. If future water improvements were curtailed, potential habitat for deer, antelope, and nongame species would be reduced. However, it is assumed that the three water guzzlers could be allowed after wilderness designation, as long as criteria to protect wilderness values (refer to Appendix 1) are met. In addition, disturbance due to exploration of locatable mineral resources could disrupt wildlife populations and result in these species leaving the disturbed area.

Raptors would remain the same in much of the WSA, except in those 120 acres of mineral disturbance where these species would leave the area.

Two endangered species (bald eagle and peregrine falcon) and one sensitive species (golden eagle) occur in the WSA. Measures taken to protect these species would be as described for the No Action Alternative and the viability of populations would be preserved.

### LIVESTOCK AND WILD HORSES

Present domestic livestock grazing would continue as authorized in accordance with the House Range MFP until that plan is superseded by the Warm Springs RMP. The 1,722 AUMs currently allocated in the WSA are controlled by four livestock permittees. Since very little use of motorized vehicles is currently taking place to manage livestock, little effect on the management of livestock grazing is expected from closure of the area to ORV use.

Willow Springs would be maintained as in the past, based on practical necessity and reasonableness. New rangeland improvements would be allowed if determined necessary for the purposes of rangeland and/or wilderness protection and the effective management of these resources. However, future roads or other livestock management facilities could be restricted to preserve wilderness values. The proposed Willow Springs pipeline could be constructed as long as wilderness protection criteria are met.

No adverse impact is expected to occur to the 70 wild horses in the WSA due to the small disturbance expected from mineral exploration and development that could occur under this alternative. These wild horses would benefit from wilderness designation due to the preservation of solitude.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through closure of the area to ORV use, and through closure of the entire area to future mineral leasing and location.

The possible mineral-related surface disturbance would be reduced from 286 acres to 120 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. If roads for development of valid mining claims (worst-case analysis) could not be denied, VRM Class I objectives might not be met on large portions of the WSA. Because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole.

### CULTURAL RESOURCES

Approximately 120 acres (0.59 percent of WSA) could be disturbed by mineral exploration and development; however, inventories for the purposes of site recordation and mitigation of impacts would take place prior to proposed surface disturbance and would mitigate any adverse impacts. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal.

There is a potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

### RECREATION

The All Wilderness Alternative could benefit recreation by increasing management attention and recognition of the area's primitive recreation values. Present access on 5 miles of ways would be eliminated and the ways would be rehabilitated.

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. The 130 visitor days of recreational activities utilizing vehicular access (hunting and zoological sightseeing, primarily for wild horses) in the WSA that could occur without designation would be eliminated from the WSA. Because there are other suitable ORV play areas in the vicinity of the WSA, ORV use would probably not experience an overall decline in the vicinity of the WSA. However, 5 miles of existing vehicular ways would be closed.

Up to 120 acres are likely to have surface-disturbing activities associated with mineral exploration. This could adversely impact primitive recreation values on these lands for the duration of activities.

If roads for development of valid mining claims could not be denied, the quality of primitive recreational opportunities would be reduced in the WSA as a whole. Because the potential for mineral production is low and wilderness designation would reduce the potential for surface disturbance, the quality of the primitive recreational experience would likely be preserved throughout the area.

### WILDERNESS VALUES

Wilderness designation would contribute to the preservation of the area's wilderness characteristics. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through closure of the area to ORV use, and through closure of the entire area to future mineral leasing and location.

No development of existing leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 286 acres to 120 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there are no reasonable alternatives. There are 5,186 acres (25 percent of the WSA) under mining claims. The potential for mineral development is low, but mineral-related disturbance (including access) could eliminate solitude, naturalness, and the opportunity for primitive and unconfined recreation on the affected areas. However, these values would not be reduced in the area as a whole. Because the potential for mineral production is low and mitigation would be imposed to protect wilderness values, any loss of these values under wilderness designation would be less likely than under the No Action Alternative. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The existing BLM House Range MFP does not provide for wilderness designation. The forthcoming Warm Springs RMP will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

The *Millard County Master Plan* recommends multiple use of all public lands in the county. Wilderness designation would generally be consistent with the multiple-use concept because most resource uses would be allowed, although under more restrictive conditions. However, this alternative would conflict with the County's multiple-use concept because restrictive conditions would be placed on mineral development and oil and gas leases would be phased out after expiration. If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic return.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation, there could be slight losses in local income and Federal revenues currently provided by resource uses in

the WSA (refer to Table 9) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $34,440 of livestock sales and $8,610 of ranchers' return to labor and investment.

Increased public awareness of the area resulting from designation could increase recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and would be insignificant to both the local economy and individual businesses.

Motorized recreational use of the WSA is estimated to be 130 visitor days per year. The decrease in related local expenditures would be small and significant to both the local economy and individual businesses.

The loss of 20,400 acres now leased would cause an eventual loss of up to $61,200 per year of lease fees to the Federal Treasury. In addition to these rental fees, any potential royalties from new lease production could also be foregone.

Federal grazing revenues of $2,411 per year would continue.

Recreation-related Federal revenues may increase if the demand for commercial outfitter services increase. There are presently no commercial outfitters using the WSA.

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# Notch Peak WSA

# NOTCH PEAK WSA
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# NOTCH PEAK WSA
# (UT-050-078)

## INTRODUCTION

### General Description of the Area

The Notch Peak Wilderness Study Area (WSA) contains 51,130 acres of public land in western Millard County, Utah. It is located about 45 miles west of Delta, Utah and is roughly 15 miles long (north to south) and 9 miles wide at its widest point. U.S. Highway 50 forms a portion of the south boundary.

Notch Peak itself is one of the most prominent West Desert landmarks and the second highest peak in the House Range (9,655 feet). Notch Peak is not only a local landmark, but its distinct shape makes it readily identifiable from over 70 miles away. Major features of the WSA include Notch Peak and stands of bristlecone pine. Principal land uses are livestock grazing and low intensity recreation.

The climate of Notch Peak WSA is characterized by low precipitation and humidity and wide ranges in daily and annual temperatures. Precipitation ranges from 10 inches at the lower elevations to 16 inches on the high slopes. Temperature extremes are -32 degrees Farenheit (F) to 106 degrees F annually.

In general, vegetation consists of pinyon-juniper and sagebrush-horsebrush. White fir, bristlecone pine, ponderosa pine, and aspen are found at the higher elevations.

### Specific Issues Identified in Scoping

General issues pertaining to more than Notch Peak WSA are discussed in Volume I. Issues and concerns raised in public scoping meetings (USDI, BLM, 1984c) and specific to Notch Peak WSA are responded to below:

1. *Comment:* The occurrence of the sensitive plant species *Cryptantha compacta* in or near this WSA should be considered in the decisionmaking process.

   *Response:* It is the policy of BLM to manage any sensitive species as if it were a threatened and endangered species designated by the Fish and Wildlife Service (FWS); therefore, this plant species would be protected under any of the proposed alternatives. The WSA contains three sensitive plant species: *Astragalus callithrix, Eriogonum ammophilum,* and *Eriogonum nummulare*. It may contain *Cryptantha compacta* as well, although the chances are remote. The known sensitive species are addressed in the Vegetation sections of this document.

2. *Comment:* This area has strategic mineral potential.

   *Response:* Deposits of various locatable minerals currently listed as strategic and critical materials are known to exist in the WSA (Federal Emergency Management Agency, 1983). Refer to the Affected Environment, Mineral and Energy Resources section for further information on these resources.

3. *Comment:* The Environmental Impact Statement (EIS) should carefully analyze potential conflicts with livestock operations in this WSA.

   *Response:* Impacts to livestock grazing from wilderness designation and nondesignation are discussed in the Livestock sections of this document. Under all alternatives, domestic livestock grazing would continue as authorized in the current Management Framework Plan (MFP) for the Warm Springs Resource Area. The 3,072 Animal Unit Months (AUMs) in the WSA would remain available to livestock as presently allotted.

4. *Comment:* The oil and gas and mineral potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be high. This information should be considered in the Draft EIS.

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas

industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

# DESCRIPTION OF THE ALTERNATIVES

## Alternatives Considered and Eliminated from Detailed Study

No alternatives were identified for the Notch Peak WSA other than those analyzed.

## Alternatives Analyzed

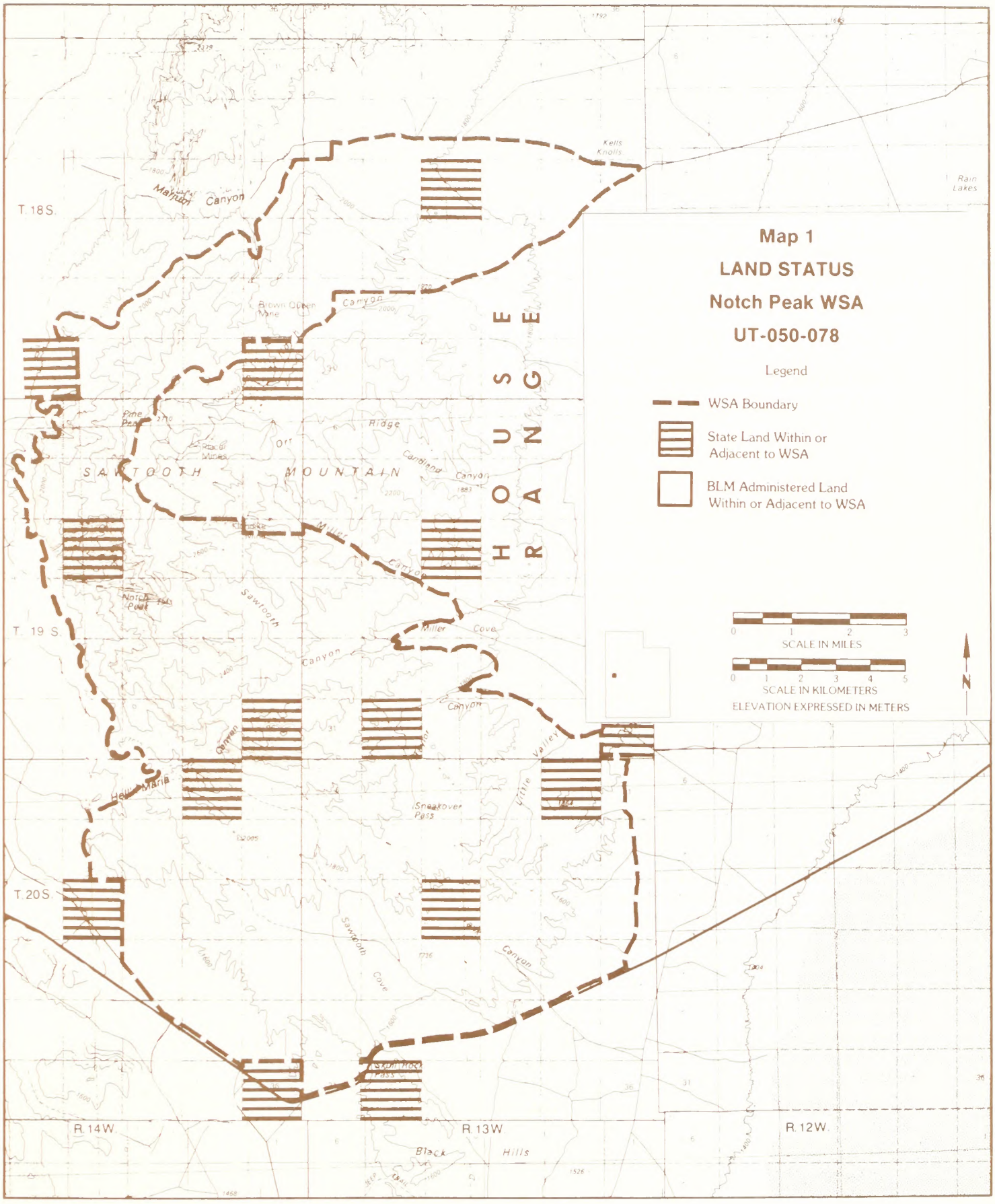
Four alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (51,130 acres); (3) Partial Wilderness (28,000 acres); and (4) Partial Wilderness (9,000 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 51,130-acre Notch Peak WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the House Range Resource Area MFP (USDI, BLM, 1971) until it is superseded by the Warm Springs Resource Area Resource Management Plan (RMP), currently scheduled for completion in 1987. The seven sections of State land (4,480 acres) within the WSA (refer to Map 1) have not been identified in the MFP for special Federal acquisition through exchange or purchase.

The following are specific actions that would take place under this alternative:

- All 51,130 acres would remain open to mineral location and sale. Development work, extraction, and patenting would be allowed on existing mining claims (11,000 acres) and potential future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809). At the present time 45,600 acres of the WSA are leased for oil and gas. Existing oil and gas leases could be developed under Category 1 (standard stipulations) on 42,500 acres and Category 3 (no surface occupancy) on 3,100 acres. Future leasing would be permitted under Category 1 on 42,500 acres and Category 3 on 4,800 acres. Approximately 3,830 acres would be managed as Category 4 (closed to leasing). Approximately 3,830 acres of the existing oil and gas leases could expire and not be reissued to meet Category 4 restrictions.
- The present domestic livestock grazing use of the 51,130-acre area of the WSA would continue as authorized in the MFP (3,072 AUMs). Existing rangeland developments (1 mile of fence and a cattleguard) could be maintained and new range facilities and improvements could be implemented without wilderness considerations. No new developments are currently proposed.
- Use, maintenance, and development of facilities and improvements for wildlife, water resources, etc. could be allowed if in conformance with the MFP. There are none existing or planned in the WSA. Some 8,500 acres in the WSA would continue to be managed under the West Desert Habitat Management Plan (USDI, BLM, 1980a) which directs management for pronghorn antelope, chukar partridge, mule deer, and raptors.
- The 51,130 acres of the WSA would remain undesignated for off-road vehicle (ORV) use until completion of the Warm Springs RMP in 1987 when ORV categories will be established. New access roads could be planned and developed in the WSA.
- The entire WSA would be open to woodland product harvest. Harvest of forest products at the present time averages 10 to 15 cords of firewood per year.
- The WSA is currently undesignated under the Visual Resource Management (VRM) class system until the Warm Springs RMP is completed in 1987. Currently the area surrounding Notch Peak is rated Class A scenery (3,100 acres), with 37,800 acres rated Class B scenery and 10,230 acres rated Class C scenery.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.


Map 1
LAND STATUS
Notch Peak WSA
UT-050-078
Legend
WSA Boundary
State Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 18 S.
T. 19 S.
T. 20 S.
R. 14 W.
R. 13 W.
R. 12 W.
SAWTOOTH MOUNTAIN
HOUSE RANGE
Kells Knolls
Rain Lakes
Marjum Canyon
Brown Opal Mine
Pine Peak
Ridge
Cardland Canyon
Miller Canyon
Notch Peak
Sawtooth Canyon
Miller Cove
Hells Gate
Maria Canyon
Sneakover Pass
Little Valley
Sawtooth Cove
Canyon
Black Hills

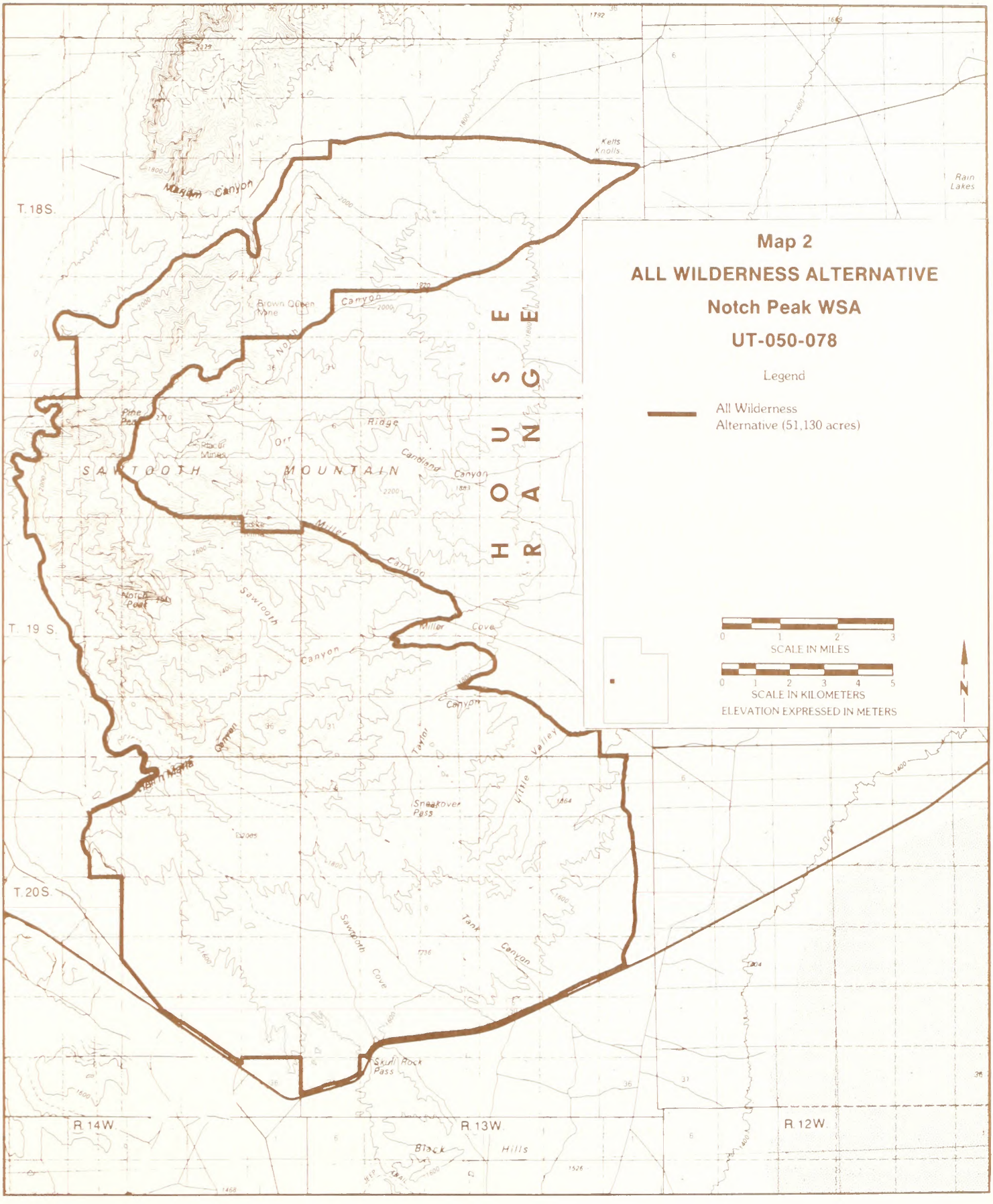
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting and fishing would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness consideration to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.
- A variation under the No Action Alternative would be the designation of approximately 9,000 acres surrounding Notch Peak as a National Natural Landmark by the National Park Service (NPS) in recognition of geological and recreational values. A management plan would be developed that would prohibit ORV use, withdraw the area from mineral entry, and close the area to mineral leasing. This variation would result in 42,130 acres being managed as described above in the No Action Alternative. Possible designation of a National Natural Landmark would be a separate action subsequent to Congressional action on the wilderness review.

**ALL WILDERNESS ALTERNATIVE**

Under this alternative, all 51,130 acres of the Notch Peak WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981b) to preserve its wilderness character. Upon designation, acquisition of seven sections of State land (4,480 acres) within the WSA (refer to Map 1) would be likely, and could be authorized by purchase or exchange. (Refer to Volume I for further information regarding State in-holdings.) One of seven State sections adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 51,130 acres would be withdrawn from mineral location and closed to new mineral sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 11,000 acres of existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with considerations to wilderness values. Existing oil and gas leases involving about 45,600 acres would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown.
- Present domestic livestock grazing would continue as authorized in the House Range MFP. The 3,072 AUMs in the WSA would remain available to livestock as presently allotted. Use and maintenance of rangeland developments existing at the time of designation (in this case, 1 mile of fence and one cattleguard) could continue in the same manner as in the past based on practical necessity and reasonableness. After designation, new developments would be allowed on a case-by-case basis if necessary for rangeland and/or wilderness resource protection and management, and if consistent with wilderness protection standards (refer to Appendix 1). None are currently planned.
- New water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed after designation only if they would enhance wilderness values, correct conditions presenting imminent hazard to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are located in the Notch Peak WSA, and none are planned.
- Wildlife transplants or habitat developments would be allowed after designation if compatible with wilderness values. None are existing or planned in this WSA.
- The entire, 51,130-acre area would be closed to ORV use except for (1) users with valid existing rights if approved by BLM in accordance with 43 CFR provisions; or (2) for occasional and short-term vehicular access approved by BLM for maintenance


Map 2
ALL WILDERNESS ALTERNATIVE
Notch Peak WSA
UT-050-078
Legend
All Wilderness Alternative (51,130 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 18 S.
T. 19 S.
T. 20 S.
R. 14 W.
R. 13 W.
R. 12 W.
HOUSE RANGE
SAWTOOTH MOUNTAIN
Kells Knolls
Rain Lakes
Brown Queen Mine
Pine Peak
Orr Ridge
Candland Canyon
Miller Canyon
Notch Peak
Sawtooth Canyon
Miller Cove
Taylor Canyon
Little Valley
Sneakover Pass
Tank Canyon
Sawtooth Cove
Skull Rock Pass
Black Hills

of approved livestock developments. The approximately 20 miles of existing vehicular ways in the WSA would not be available for vehicular use except as indicated above. About 22 miles of the WSA boundary follow an existing paved highway and gravel and dirt roads that would remain open to vehicular travel.

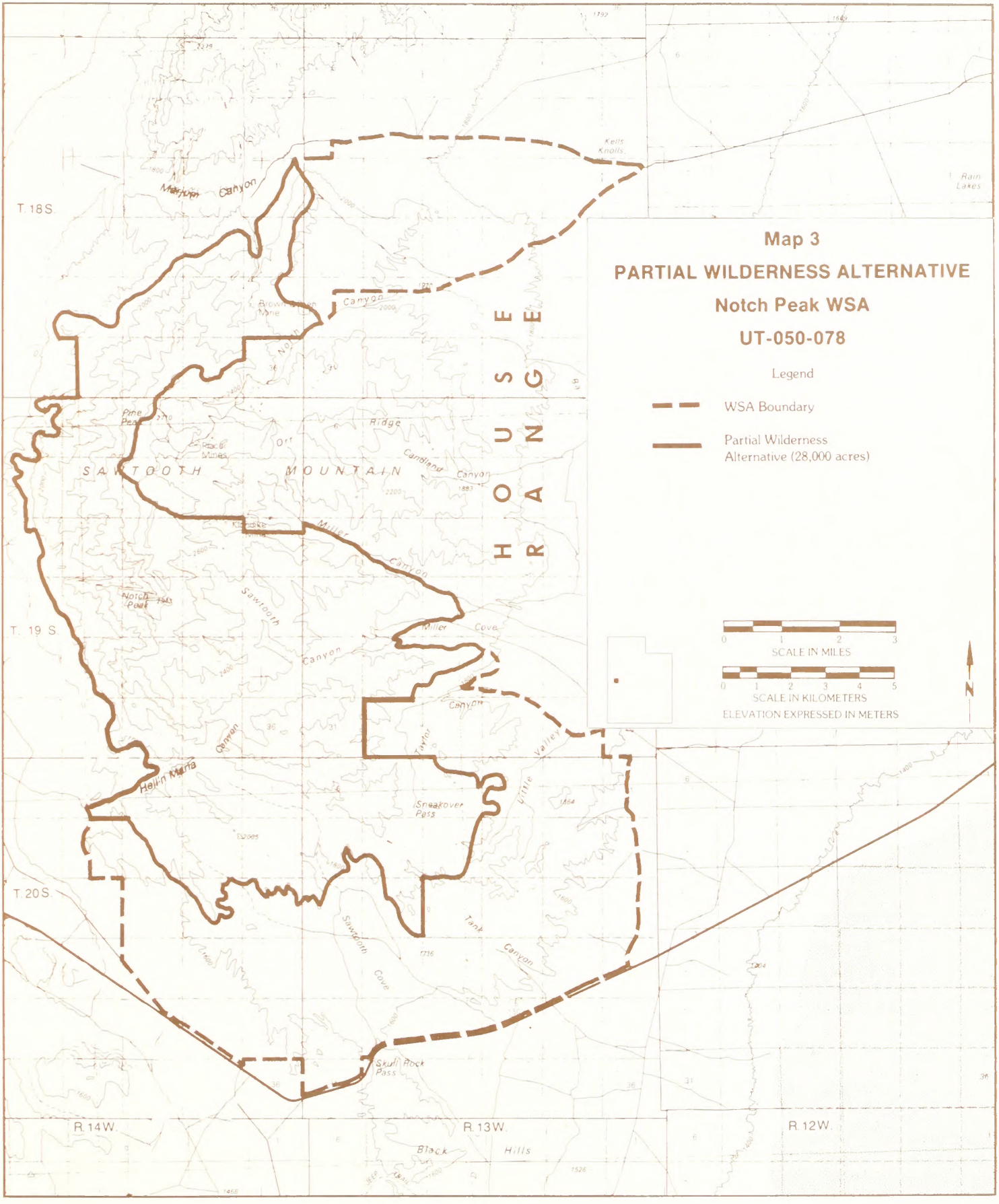
- A specific Wilderness Management Plan would be developed to govern use and protection of the 51,130-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads that are adjacent to or "cherry-stemmed" into the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in the current military use of air space over the WSA.
- Harvest of forest products would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. Harvest of forest products at the present time averages 10 to 15 cords of firewood per year.
- Visual resources in the WSA would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken must be those having the least adverse impact to wilderness values (i.e., those that least alter the landscape or disturb the land surface). Therefore, it is assumed that firefighting would be limited to aerial and hand techniques.
- Any activity for the purpose of gathering information about natural resources would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

### PARTIAL WILDERNESS ALTERNATIVE (28,000 ACRES) (PROPOSED ACTION)

For this alternative, 28,000 acres of the Notch Peak WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to identify and analyze as wilderness that portion of the WSA with the most outstanding wilderness characteristics. The 28,000 acres analyzed as wilderness under this alternative include Notch Peak itself and adjoining steep mountainous terrain extending north and southeast from Notch Peak. The 23,130-acre area within the WSA but outside of that designated as wilderness under this alternative would be managed in accordance with the House Range MFP as described for the No Action Alternative. The 28,000 acres designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative. This alternative likely would involve Federal acquisition of three sections of State land (refer to Volume I). Two of five State sections adjacent to the the wilderness area likely would be exchanged. Assumptions regarding analysis and impacts for State lands involved in this Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. The figures and acreages given under this alternative are for Federal lands only.

A summary of specific actions under this alternative follows.

- The 28,000-acre wilderness area would be withdrawn from mineral entry and closed


Map 3
PARTIAL WILDERNESS ALTERNATIVE
Notch Peak WSA
UT-050-078
Legend
WSA Boundary
Partial Wilderness
Alternative (28,000 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 18 S.
T. 19 S.
T. 20 S.
R. 14 W.
R. 13 W.
R. 12 W.
SAWTOOTH MOUNTAIN
HOUSE RANGE
Notch Peak
Sneakover Pass
Skull Rock Pass
Black Hills
Kells Knolls
Rain Lakes
Miller Canyon
Miller Cove
Sawtooth Canyon
Tank Canyon
Hell'n Maria Canyon
Candland Canyon
Pine Peak
Ridge
Valley

to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on 5,756 acres of existing mining claims that are in this portion of the WSA, provided they are valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with consideration given to wilderness values. Existing oil and gas leases, which cover 25,570 acres in this portion of the WSA, would be phased out upon expiration unless a find in commercial quantities is shown. The 23,130 acres not designated wilderness would be open to mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (5,244 acres in this portion of the WSA) and future mining claims could occur if claims are valid. The area not designated would be managed as leasing Category 1 on 22,950 acres and leasing Category 3 on 180 acres. Development of existing oil and gas leases (20,030 acres) and future leases in this area could be allowed without concern for wilderness values.

- Domestic livestock grazing would continue to occur in the 28,000-acre wilderness area with 1,038 AUMs in this portion of the WSA remaining available to livestock as presently allotted in the House Range MFP. Any future developments that may be proposed would have to meet wilderness protection standards. However, no rangeland facilities exist in the wilderness area and none have been proposed. In the 23,130-acre nonwilderness area grazing use would continue as authorized in the MFP. This area contains 2,034 AUMs and the existing range developments noted under the description of the All Wilderness Alternative. Existing facilities could be used and maintained and new rangeland improvements could be developed without concern for wilderness values. None are currently planned.
- New water resource facilities or watershed activities not related to rangeland or wildlife management would be allowed in the 28,000-acre wilderness only if enhancing to wilderness values, if necessary to correct conditions imminently hazardous to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 23,130 acres water resource developments would be allowed if in accordance with the MFP. None are currently planned.
- In the wilderness area, wildlife transplants or habitat improvements would be allowed only if they would be compatible with wilderness values. In the nonwilderness area wildlife transplants or improvements would be allowed with no concern for wilderness values. None are now planned.
- The 28,000-acre wilderness area would be closed to ORV use. About 7 miles of existing ways in this portion of the WSA would not be available for vehicular use except in situations described in the All Wilderness Alternative. The 23,130-acre remainder of the unit, including 13 miles of vehicular ways as well as the existing dirt roads bordering the WSA, would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 28,000-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads that are adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not propose any change in the current military use of the air space over the WSA.
- Harvest of forest products in the 28,000-acre wilderness would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining area would be open to woodland harvest.
- Visual resources in the wilderness area would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. VRM classes would not be established in the remainder of the area until completion of the Warm Springs RMP in 1987.
- Within the 28,000-acre wilderness, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource

would result if the measures were not taken. Measures taken must be those having the least impact to wilderness values. Therefore, it is assumed that firefighting would be limited to hand and aerial techniques. In the portion of the unit not designated, measures of control could be taken without consideration of wilderness values.

- Gathering information about natural resources would be allowed by permit in the entire 51,130-acre WSA. However, in the wilderness area such activity would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- In the entire WSA hunting would be allowed subject to applicable State and Federal laws and regulations. Use would be limited to nonmotorized means in the 28,000-acre wilderness.
- Throughout the entire 51,130-acre WSA control of predators would be allowed to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the wilderness area, however, predator control would only be allowed under conditions that would ensure minimal disturbance to wilderness values. In the wilderness portion, poison baits or cyanide guns would not be allowed.

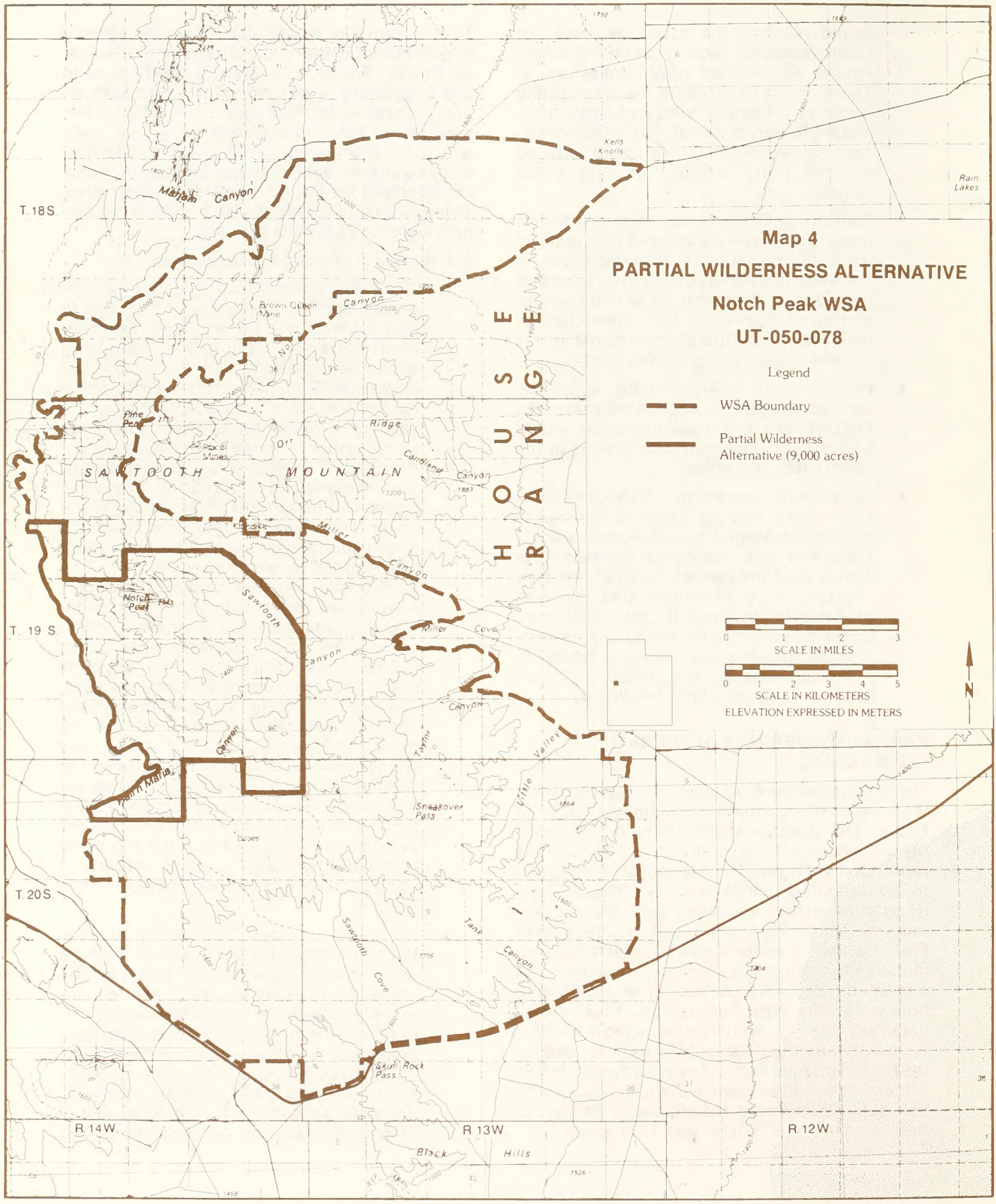
### PARTIAL WILDERNESS ALTERNATIVE (9,000 ACRES)

For this alternative, 9,000 acres of the Notch Peak WSA would be designated as wilderness (refer to Map 4). The objective of this alternative is to identify and analyze the portion of the WSA with the most outstanding wilderness characteristics and to reduce mineral conflicts. The 9,000 acres analyzed as wilderness under this alternative include only the Notch Peak area itself. It differs from Partial Wilderness Alternative 1 in that it does not include the mountainous terrain extending north and southeast of Notch Peak. The 42,130-acre area within the WSA but outside of that designated as wilderness would be managed in accordance with the House Range MFP as described for the No Action Alternative. The area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative.

This alternative would likely involve Federal acquisition of one section of State land (Section 35, Range 14 West, Township 19 South) so as to avoid pinching a portion of the unit into an unmanageable configuration. Two other State sections adjacent to the wilderness area likely would be exchanged. Assumptions regarding analysis and impacts for State lands are the same as described for the All Wilderness Alternative. The figures and acreages given under this alternative are for Federal lands only.

A summary of specific actions follows:

- The 9,000-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on the 800 acres of existing mining claims in this portion of the WSA, provided that they are valid. Development would be regulated by unnecessary or undue degradation regulations (43 CFR 3809) with consideration of wilderness values. The existing oil and gas leases in this portion of the WSA, which cover 8,680 acres, would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown. The 42,130-acre area not designated wilderness would be open to mineral location, leasing, and sale. Development work, extraction, and patenting of existing (10,200 acres) and future mining claims could occur in the area if claims are valid. The area not designated would be managed as leasing Category 1 on 36,300 acres, Category 3 on 3,120 acres, and Category 4 on 2,710 acres. Development of existing oil and gas leases (36,920 acres) and future leases in this portion of the WSA could be developed without concern for wilderness values. Eventually 2,710 acres of the existing leases could be phased out upon expiration to meet Category 4 restrictions.
- Domestic livestock grazing would continue to occur in the 9,000-acre wilderness area. The 310 AUMs would remain available to livestock as presently allotted. No rangeland facilities are located in the wilderness area, nor could they be developed in the future unless wilderness protection standards are met. In the 42,130-acre nonwilderness area grazing use would continue as authorized in the MFP (2,762 AUMs). The existing 1 mile of fence and


Map 4
PARTIAL WILDERNESS ALTERNATIVE
Notch Peak WSA
UT-050-078
Legend
WSA Boundary
Partial Wilderness Alternative (9,000 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 18 S.
T. 19 S.
T. 20 S.
R. 14 W.
R. 13 W.
R. 12 W.
SAWTOOTH MOUNTAIN
HOUSE RANGE
Marlin Canyon
Brown Queen Mine
Pine Peak
Ridge
Candland Canyon
Miller Canyon
Notch Peak
Sawtooth Canyon
Miller Cove
Horn Maria
Sneakover Pass
Taylor Valley
Tank Canyon
Sawtooth Cove
Skull Rock Pass
Black Hills
Kells Knolls
Rain Lakes

cattleguard are in this area and could be maintained without wilderness concerns. New rangeland improvements could be developed in this area without concern for wilderness values, although none are currently proposed.

- New water resource facilities or watershed activities would be allowed in the 9,000-acre wilderness area only under the conditions described in the All Wilderness Alternative. In the remaining 42,130 acres water resource facility developments would be allowed if in accordance with BLM planning documents. None are currently planned.
- In the wilderness area, wildlife transplants or habitat improvements would be allowed if they are compatible with wilderness values. In the nonwilderness area, wildlife transplants or improvements would be allowed without wilderness considerations. None are now proposed.
- The 9,000-acre wilderness area would be closed to ORV use. None of the 20 miles of existing ways are in this portion of the WSA. "Cherry-stemmed" roads would also not be involved. The 42,130-acre remainder of the unit would remain open to vehicular travel, including possible development of new road access.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 9,000-acre wilderness. It is assumed that the Wilderness Management Plan would not propose any change in the current military use of the air space over the WSA.
- Harvest of forest products in the 9,000-acre wilderness would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining acres would be open to woodland harvest.
- Visual resources in the wilderness area would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining acres would be managed as currently set forth in the House Range MFP. VRM classes would not be established until completion of the Warm Springs RMP in 1987.
- Measures to control fire, insects, noxious weeds, or disease would be allowed in the entire 51,130-acre WSA. However, within the 9,000-acre wilderness area such action would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that fires would be controlled only by hand or aerial methods in the designated wilderness area.
- In the entire WSA any activity for the purpose of gathering information about natural resources would be allowed by permit. In the wilderness area such activity would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures.
- Hunting would be allowed in the entire WSA subject to applicable State and Federal laws and regulations. In the wilderness area, the use would be limited to nonmotorized means.
- Throughout the entire WSA control of predators would be allowed to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the wilderness area, poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences that would result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

Unless otherwise indicated, information for this section was taken from BLM technical reports and documents.

### Air Quality

Air quality within the WSA has been designated as a Prevention of Significant Deterioration (PSD)

# TABLE 1
# SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
# NOTCH PEAK WSA

| Resource | Alternatives | | | |
|---|---|---|---|---|
| | No Action | All Wilderness (51,130 Acres) | Partial Wilderness Designation (28,000 Acres) (Proposed Action) | Partial Wilderness Designation (9,000 Acres) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for low temperature geothermal energy and up to 3 million barrels of oil and 18 billion cubic feet of natural gas. Up to 10 tons of beryllium, 50,000 tons of lead and zinc, and 500 tons of tungsten could also be developed. There is a low to moderate potential for development of locatable minerals. | Oil, gas, and geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of oil and gas and geothermal resources, the loss of development opportunity would not be significant. Because locatable minerals are known to occur in the WSA, at least in small quantities and some production has occurred, opportunity for some recovery of locatable minerals would be foregone. | Although likelihood is low, up to 1.3 million barrels of oil and 8 billion cubic feet of natural gas could be recovered. About 4.5 tons of beryllium, 22,500 tons of lead and zinc, and 225 tons of tungsten could also be recovered. | Although likelihood is low, up to 2.5 million barrels of oil and 15 billion cubic feet of natural gas could be recovered. About 8 tons of beryllium, 41,000 tons of lead and zinc, and 410 tons of tungsten could also be recovered. |
| Wildlife | About 0.9 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. About 0.9 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat. | Effects would be about the same as for the 28,000-acre Partial Wilderness Alternative. |
| Livestock | Grazing of 3,072 AUMs and maintenance of existing developments would continue. New developments could be constructed; however, none are now proposed. Approximately 20 miles of ways could be used by permittees for livestock management. | Grazing of 3,072 AUMs and maintenance of existing developments would continue. Some inconvenience in grazing management could result from restrictions on ORV use. Proposed new developments might not be allowed. | Grazing of 3,072 AUMs and maintenance of existing developments would continue. Effects on grazing management would be less than for the All Wilderness Alternative, as 13 miles of ORV ways would be open. | Effects would be about the same as for the 28,000-acre Partial Wilderness Alternative with the exception that all 20 miles of ways in the WSA could be used for livestock management. |
| Visual Resources | The quality of visual resources could be impaired on up to 446 acres. | Visual quality could be impaired on up to 280 acres. | Visual quality could be impaired on up to 355 acres, including 154 acres in the designated portion. All of the Class A scenery would be within the designated area and would be protected by the reduced potential for disturbance. | Visual quality could be impaired on up to 415 acres, including 50 acres in the designated portion. All of the Class A scenery would be in the designated portion and be protected by the reduced potential for disturbance. |

## TABLE 1 (continued)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## NOTCH PEAK WSA

| Resource | Alternatives | | | |
|---|---|---|---|---|
| | No Action | All Wilderness (51,130 Acres) | Partial Wilderness Designation (28,000 Acres) (Proposed Action) | Partial Wilderness Designation (9,000 Acres) |
| Recreation | ORV use would continue on 20 miles of ways at current low levels. Overall recreational use could increase from the present 250 visitor days per year to 373 over the next 20 years. Up to 446 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 20 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 13 miles of ways in the undesignated portion. | ORV recreational use could continue on 20 miles of ways in the undesignated portion. |
| Wilderness Values | Wilderness values could be lost on up to 446 acres (about 0.9 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 280 acres (about 0.6 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on up to 154 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on 0.9 percent of the 23,130 acres not designated. Overall, wilderness values could be lost on 0.7 percent of the WSA. However, 55 percent of the area meeting the standards for naturalness and 99.5 percent of the area meeting the standards for outstanding opportunities for solitude and primitive recreation would be in the designated portion and would be protected by reduced potential for disturbance. | Wilderness values would be protected, except on 50 acres which could be disturbed by development of valid mineral rights. Additional impairment could be expected on 0.9 percent of the 42,130 acres not designated. Overall, wilderness values could be lost on 0.8 percent of the WSA. However, about 18 percent of the area meeting the standards for naturalness and 32 percent of the area meeting the standards for outstanding opportunities for solitude and primitive recreation would be in the designated area and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan,* State of Utah plans and policies, and the BLM House Range MFP. | This alternative would not be consistent with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute an amendment of the BLM House Range MFP. | Partial designation would be the same as the All Wilderness Alternative, except that the portion not designated would be consistent with Millard County's plans. | Consistency would be about the same as with the 28,000-acre Partial Wilderness Alternative. |

## TABLE 1 (continued)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## NOTCH PEAK WSA

| Resource | Alternatives | | | |
|---|---|---|---|---|
| | No Action | All Wilderness (51,130 Acres) | Partial Wilderness Designation (28,000 Acres) | Partial Wilderness Designation (9,000 Acres) |
| Socio-economics | Annual local sales of less than $81,215 and Federal revenues of up to $129,611 would continue. Up to $11,490 per year in Federal revenues could be lost due to phasing out of oil and gas leases to meet category restrictions. However, an additional $16,590 per year in Federal revenues could be derived from leasing of presently unleased areas. | Annual local sales of less than $81,215 and Federal revenues of up to $4,301 would continue, but Federal revenues of up to $141,900 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be about the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $72,910. | The effects of this alternative would be about the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $23,640. |

Class II area, which permits moderate deterioration associated with controlled development and growth. The nearest PSD Class I area is Capitol Reef National Park, approximately 120 air miles to the southwest. The WSA is currently affected little by pollution, and visibility is unimpaired. The WSA is located near the center of the area with the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

## Geology

This WSA lies within the Basin and Range Physiographic Province and encompasses part of the House Range. This area is characterized by a series of generally north-south trending block-faulted mountain ranges and sedimentary basins. The WSA is characteristic of basin and range relief, with this mountain range rising steeply above the surrounding valleys. The range itself typically trends north and south. The blockfault of this range is tilted, so that the west face is extremely steep; the cliff face is nearly 3,000 feet high. At 9,655 feet, Notch Peak is the second highest peak in the House Range; however, the average elevation of the WSA is approximately 7,000 feet. Notch Peak is a distinctive example of the blockfaulted mountains characteristic of the Great Basin. Several deep, narrow canyons are in the WSA; the most prominent are Hell'n Maria Canyon and Sawtooth Canyon. The WSA contains an igneous intrusive body, specifically, a quartz monzonite of Jurassic Age.

## Soils

Soils at the higher elevations are moderately deep, dark acid loams. Soils at the lower elevations can be very deep, light-colored, alkaline loams and sands. The entire WSA (51,130 acres) is in a slight erosion condition class. Erosion condition class is based on soil surface factors (refer to the Glossary).

It has been estimated that the annual soil loss from soils in a slight erosion condition class is approximately 0.6 cubic yards per acre. Therefore, the annual soil loss for the entire WSA would be approximately 30,678 cubic yards.

## Vegetation

Existing vegetation types in the WSA are shown in Table 2. There are 290 acres of white fir, ponderosa pine, and aspen. A small stand of bristlecone pine is found in the Notch Peak area of the WSA. There is no riparian vegetation in the WSA.

**TABLE 2**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Aspen-conifer | 290 | 1 |
| Pinyon-juniper | 12,610 | 24 |
| Mountain mahogany-cliffrose-squawbush | 3,973 | 8 |
| Sagebrush-horsebrush | 23,008 | 45 |
| Shadscale-horsebrush-cheatgrass | 10,226 | 20 |
| Ricegrass | 1,023 | 2 |

Sources: Foster, 1968; USDI, BLM, 1973.

The Notch Peak WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are listed on Table 3. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

The WSA contains three sensitive plant species: *Eriogonum ammophilum, Astragalus callithrix* and *Erigonum nummulare*. All are candidate species for possible listing by the FWS as threatened or endangered. There are no listed threatened or endangered species known to occur in the WSA.

**TABLE 3**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 20,452 | 40 |
| Saltbush-greasewood | 30,678 | 60 |

Source: USDI, Geological Survey, 1978.

## Water Resources

There are no springs or live water within the WSA. There are a number of seeps in Miller Canyon and Amasa Valley, both immediately adjacent to the WSA on the east. Painter Spring, with flows of approximately 30 gallons per minute, is adjacent on the west. It fails to meet the suggested chemical criteria for human consumption because of high sodium content.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for it energy and mineral resources by SAI (1982). Refer to Table 4 for a summary of the mineral and energy ratings. Refer to Appendix 5 for a detailed description of the SAI rating system.

**TABLE 4**

**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f1 | c1 | Little or none |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c4 | Low temperature resource |
| Hydropower | f1 | c4 | No potential |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f2 | c1 | Less than 50,000 tons |
| Tungsten | f2 | c4 | Less than 500 tons |

Source: SAI, 1982.

[1] Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2] Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

An overall importance rating (OIR) of 2+ was assigned to the Notch Peak WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, tungsten, silver, molybdemen, platinum, and copper that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983). Although listed as strategic, copper is relatively common. Supplies currently exceed domestic demand.

### LEASABLE MINERALS

There are no known occurrences of leasable minerals in the WSA nor are there any active drilling or exploration activities.

### Oil and Gas

Oil and gas seismic surveys and drilling operations have taken place near the WSA. The geologic history of the WSA indicates that large structural traps for oil and gas are unlikely to occur; however, random small traps may exist. The overall favorability for the occurrence of oil and gas deposits in the WSA is considered low (f2). If any occurs in the area, it would most likely be along the eastern edge of the WSA. It is estimated that the WSA could contain less than 10 million barrels of oil and less than 60 billion cubic feet of gas. Of this, the recoverable resource would be less than 3 million barrels of oil and less than 18 billion cubic feet of gas.

There are approximately 600 acres of pre-FLPMA leases in the southeast corner and approximately 45,000 acres of post-FLPMA leases in the remainder of the WSA.

Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as á prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness

values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981b). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

Approximate acreages of present leasing categories in the WSA are as follows: Category 1 (standard stipulations), 42,500 acres; Category 3 (no surface occupancy), 4,800 acres; and Category 4 (closed to leasing), 3,830 acres. The 3,830 acres under Category 4 are presently leased for oil and gas.

#### Geothermal

Thermal springs discharge northwest of the WSA at Coyote, Tule, and South Tule Springs. The WSA is considered marginally favorable (f2) for low temperature geothermal resources. Geothermal resources, if present, would probably be uneconomic to extract and there is currently no demand. There are currently no geothermal leases in the WSA.

### LOCATABLE MINERALS

Deposits of various locatable minerals, including gold, silver, copper, lead, zinc, tungsten, platinum, rubidium and molybdenum, are known to exist in small quantities in the WSA. There are presently 175 mining claims covering 11,000 acres scattered throughout the WSA. Generally, the geologic history of the area indicates a favorable environment for small mineral deposits.

Favorability for uranium is low. Much of the known mineralization and mining activity in the area has been excluded from the WSA. However, large areas inside the boundaries are still either composed of or influenced by the igneous intrusives. It is noted that SAI did not rank the mineral potential of many of the area's known minerals. More thorough exploration would be required to determine the potential for commercial development of the area. Numerous exploration activities have occurred, both inside and near the WSA.

Minor amounts of gold and tungsten have been mined inside the WSA, although no production figures are known. The White Lady claims (Section 30, Township 19 South, Range 13 West) have workings and a cabin in this area.

### SALABLE MINERALS

There are no established salable material sites within the WSA. Sand and gravel occur in the WSA, as well as large quantities of limestone. However, no demand for any salable materials in the WSA is expected due to the availability of other deposits in better locations.

## Wildlife

The Notch Peak WSA provides habitat for a variety of species. There are 50 species of mammals, 103 species of birds, 14 species of reptiles, and one amphibian species that inhabit the area at different times of the year. Although a great diversity exists, no one species can be considered as abundant.

The entire WSA (51,130 acres) provides yearlong habitat for mule deer. This habitat is lightly used because of the low population of deer (approximately 10 deer). The WSA provides approximately 3,195 acres of chukar habitat.

There are two endangered (bald eagle and peregrine falcon) and one sensitive (golden eagle) species that inhabit the WSA. Although there is no Federally designated critical habitat in the WSA, the entire area is considered crucial yearlong habitat for golden eagle.

Approximately 8,500 acres in the WSA are managed under the West Desert Habitat Management Plan (USDI, BLM, 1980a) which directs wildlife management for pronghorn antelope, chukar partridge, mule deer, and raptors. There are no existing or proposed wildlife habitat improvement projects within the WSA nor are there plans for wildlife transplants.

## Forest Resources

There are approximately 12,610 acres of pinyon-juniper vegetation and 290 acres of commercial timber species. Only 650 acres of the 12,900-acre total are suitable for harvest because of slopes in excess of 40 percent. Only 250 acres of the pinyon-juniper area and none of the timber area is presently accessible. The 290 acres of commercial timber species are on steep slopes and are inaccessible without additional road construction. Present harvest of forest products is estimated to average 10 to 15 cords of firewood per year. Potential harvest is 3,761 cords firewood, 389 fenceposts, 955 lbs. of pine nuts and 36.5 thousand board feet (MBF) of lumber.

## Livestock and Wild Horses/Burros

There are portions of eight allotments within the WSA that are used by 14 permittees. Available livestock forage within the WSA is estimated at 50 AUMs for cattle and 3,022 AUMs for sheep. Refer to Table 5 for livestock grazing use data. There are approximately 20 miles of existing ways used extensively by stockmen to obtain access for sheep camps and for hauling water. These same ways are also used by the BLM range staff in the management of the allotments involved. Range improvements consist of a fence (1 mile) and a cattleguard. No new future range improvements are proposed.

There is no wild horse or burro use in this WSA.

**TABLE 5**
**Livestock Grazing Use Data**

| | Allotments | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Amasa (ca)[1] | Notch Canyon (sh)[2] | Klondike (sh) | Notch Peak (sh) | King (sh) | Blackham (sh) | Painter Spring (sh) | Granite (sh) |
| Permittees | 2 | 2 | 2 | 3 | 1 | 1 | 1 | 2 |
| Period of Use | 5/16-9/30 | 12/1-3/31 | 11/1-4/15 | 11/20-4/19 | 11/1-4/30 | 11/1-4/30 | 11/1-4/30 | 11/1-4/30 |
| Percent of Allotment Area in WSA | 14 | 18 | 9 | 67 | 19 | 15 | 8 | 4 |
| Estimated Available Livestock Forage AUMs in WSA | 50 | 358 | 135 | 1,960 | 196 | 289 | 32 | 52 |
| Total AUMs in Allotment | 357 | 1,627 | 3,375 | 3,564 | 2,800 | 2,223 | 3,200 | 2,600 |
| Percent of Total AUMs in WSA | 14 | 22 | 4 | 55 | 7 | 13 | 1 | 2 |

Source: USDI, BLM, 1973.

[1] Ca = Cattle

[2] Sh = Sheep

## Visual Resources

The dominant visual feature is the sheer west face of Notch Peak. The ridge line is covered with dark-green stands of conifers and lightly colored aspen groves. The area around Notch Peak is rated as Class A (high quality) scenery and comprises approximately 6 percent (3,100 acres) of the WSA. Approximately 74 percent (37,800 acres) is rated as Class B scenery and the balance (10,230 acres) in the foothill areas is Class C.

A VRM management class evaluation has not been made for the area encompassed by this WSA. (Refer to Appendix 7 for a description of BLM's VRM rating system.)

## Cultural Resources

There is only one site (a Fremont rockshelter) recorded inside the WSA. Potential for finding cave sites and open campsites reflecting aboriginal use of the area is high.

Historically, the area outside the WSA has been extensively mined. Sheepmen and cattlemen used the area to graze their animals during the summers and winters (cattle use in summer and sheep use in winter). In addition, because of its distinctive slope, Notch Peak was a major landmark along the trails going to Nevada. The potential for historic sites reflecting use by miners, sheepmen, and cattlemen should be fairly high.

There are no designated National Register sites or nominees in the WSA. The potential for such sites is high.

## Recreation

The quality of 15 recreational opportunities was evaluated for this WSA. Fourteen opportunities were present in varying degrees. Two activities, dayhiking and geologic sightseeing, were rated excellent in quality. Notch Peak, bristlecone pine, and several steep rugged canyons contributed to this evaluation. Scenic vistas and rock climbing were considered above average in quality. Five other opportunities (backpacking, camping, horseback riding, nature study, and photography) were considered average in quality.

Approximately 250 visitor days have been attributed to various forms of dispersed recreation, including dayhikes to Notch Peak and hunting for mule deer and chukars. All hikers probably have Notch Peak as their destination. There are three routes that are generally used: Amasa Valley, Hell 'n Maria Canyon, and Sawtooth Canyon.

The 20 miles of existing vehicular ways are used for recreational access although the main access onto the mountain is on existing mining roads into Amasa outside the boundary of the WSA. The WSA is currently undesignated for ORV use and will remain undesignated until completion of the Warm Springs RMP in 1987, when ORV categories will be established. Currently little, if any, ORV play activity occurs in the area largely due to topographic restraints.

## Wilderness Values

### SIZE

This WSA contains approximately 51,130 acres of public land. It is roughly 15 miles long (north to south) and 9 miles wide at its widest point.

### NATURALNESS

Some 20 miles of ways are found in the south and east portions of the area. There are a small cabin and mine workings in the Sawtooth Canyon area. These disturbances are considered substantially unnoticeable in the WSA as a whole. The entire WSA meets the naturalness requirements set by the *Wilderness Act*.

### SOLITUDE

Generally, the topographic and/or vegetation screening is excellent throughout approximately 55 percent (28,130 acres) of the WSA; this area is in the central mountainous portion around Notch Peak and meets the requirements set by the *Wilderness Act*. It also includes Sawtooth Canyon and Hell'n Maria Canyon. The balance of the WSA includes lower flats with low-growing vegetation. The sights and sounds of traffic along U.S. Highway 6/50 (which forms a portion of the south boundary) and the cumulative effect of ways could adversely affect one's opportunity to find solitude in the southern portion of the unit. The opportunities for solitude in the northern part of the WSA are adversely affected by outside sights and sounds associated with mining operations and road systems. These areas (totaling approximately 23,000 acres) do not meet the standards for outstanding opportunities for solitude set by the *Wilderness Act*.

The Notch Peak WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flights per day over the South Range 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range which includes the Notch Peak WSA (Davies, 1985). Aircraft occasionally fly directly over the WSA, and these overflights can be a source of annoyance to visitors seeking solitude. Most of these overflights are usually not directly over the WSA and are subsonic in this area. Military flights are occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude.

### PRIMITIVE AND UNCONFINED RECREATION

Dayhiking opportunities in the higher areas of the WSA are outstanding due to challenging terrain and spectacular views. Several routes lead to Notch Peak; the most popular is via Sawtooth Canyon. Portions of the WSA offer little topographic or vegetation variety and, consequently, fail to offer outstanding recreational experiences. Approximately 45 percent (23,000 acres) of the WSA does not meet the outstanding criteria for primitive recreation; this is the foothill area in the southern and northern portions of the WSA. The remainder of the WSA (28,130 acres) meets the *Wilderness Act* standards.

### SPECIAL FEATURES

The special features found in the WSA are Notch Peak and stands of bristlecone pine. Notch Peak is a local landmark and the second highest peak in the House Range; its distinct shape makes it readily identifiable from over 70 miles away. Some bristlecone pine occurs along ridgetops at higher elevations.

## Land Use Plans and Control

There are no existing or proposed rights-of-way in the Notch Peak WSA. There are no private or split estate lands.

There are six State sections within the boundaries of this WSA that have been leased for oil and gas. One section has also been leased for grazing and another for metalliferous minerals.

The *Millard County Master Plan* (Paul Nelson Associates, Inc., 1981) does not specifically address wilderness. The County believes that Federal lands should be generally utilized to their greatest economic potential under a multiple-use concept.

Public lands are being administered by the BLM under the House Range MFP (USDI, BLM, 1971). Actions allowed under the MFP are discussed in the Description of the No Action Alternative. The current MFP predates wilderness considerations and has not been reviewed by the Governor of Utah for consistency with State plans. The Warm

Springs RMP will replace the House Range MFP in 1987.

## Socioeconomics

The Notch Peak WSA is located in Millard County, Utah.

### DEMOGRAPHICS

Census figures for 1980 show a Millard County population of 8,970, an increase of 28.4 since 1970 (U.S. Department of Commerce [USDC], Bureau of the Census, 1981). A major portion of the Millard County population lives in Delta (1,930) and Fillmore (2,083), both gateway towns to the WSA at an approximate road distance of 65 and 96 miles, respectively. Nephi (3,285), which is the largest community in Juab County, could also be considered a gateway town, at an approximate road distance of 114 miles from the WSA. The current construction and future operation of the Intermountain Power Project (IPP) will add significantly to the population of Millard County.

### EMPLOYMENT

At almost 34 percent, the government sector (Federal, State, and local) is the most important in terms of employment in Millard County economy. Table 6 presents 1982 nonfarm employment figures for Millard County. Farm employment makes up about 26 percent of the employment in Millard County.

**TABLE 6**
**1982 Nonfarm Employment**
**Millard County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transport, Communication and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance and Real Estate Services | 73 | 3.3 |
| Services | 167 | 7.6 |
| Government[1] | 739 | 33.7 |
| Total | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.

[1] Total Federal, State, and local.

### INCOME AND REVENUES

Income in Millard County is about proportionate to employment (refer to Table 7). The construction of IPP is having, and will continue to have, a significant impact on both employment and income in the county.

Economic-related activities in the WSA include mineral exploration, livestock production, and recreation. Table 8 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 7**
**1982 Personal Income and Earnings**
**Millard County, Utah**

| Type/Source | Earnings Income (in $1,000) | Annual Growth Rate 1975-80 (Percent) |
|---|---|---|
| Total Labor and Proprietors' Income (Earnings) | 40,602 | 82.7 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 5,717 | 9.0 |
| Nonfarm | 34,885 | 105.0 |
| Private | 25,315 | 110.8 |
| Agricultural | 709 | 9.0 |
| Service and Other | | |
| Mining | 4,293 | 346.5 |
| Construction | 5,889 | 668.7 |
| Manufacturing | 2,454 | 69.0 |
| Transportation and Public Utilities | 3,802 | 69.8 |
| Wholesale Trade | 1,531 | 40.9 |
| Retail Trade | 4,165 | 54.2 |
| Finance, Insurance, and Real Estate | 1,368 | 124.6 |
| Services | 2,305 | 48.6 |
| Government | 9,570 | 91.0 |

Source: USDC, Bureau of Economic Analysis, 1984.

**TABLE 8**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $136,800 |
| Mining Claim Assessment | Less than $17,500 | None |
| Livestock Grazing | $61,440 | $4,301 |
| Recreational Use | Less than $1,025 | None |
| Firewood Harvest | $1,250[2] | None |
| Total | Less than $81,215 | Up to $141,101 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

[2] This is the value of the forest products to those who harvest them and may not be directly related to local sales.

The WSA has 175 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all of these claims are current in assessment. Minor amounts of gold and tungsten have been mined inside the WSA, although no production figures are known.

Mineral and energy resource production from the WSA has contributed only slightly to local employment or income.

Fourteen livestock operators have a total grazing privilege of 3,072 AUMs within the WSA. If all this forage were utilized, it would account for $61,440 of livestock sales and $15,360 of ranchers' returns to labor and investment.

Present harvest of forest products from the WSA is estimated as 10 to 15 cords of firewood valued at about $75 per cord for a total value of about $1,250 per year. These harvests are for personal use and are insignificant to the local economy and only of minor significance to those involved in the harvest.

The WSA's nonmotorized recreational use and related local expenditures are low. These expenditures are insignificant to both the local economy and individual businesses. The WSA's motorized recreational use and related local expenditures are also low and insignificant to both the local economy and individual businesses. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for Notch Peak WSA is estimated as about 250 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Millard County.

The WSA generates Federal revenues from mineral leases and livestock sources (refer to Table 8).

Oil and gas leases in the WSA cover approximately 45,600 acres. At $3 per acre, lease rental fees generate up to $136,800 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA can use up to 3,072 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $4,301 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines For All Alternatives

1. The alternatives would be carried out as noted in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas and locatable mineral exploration and development. The area would be open to resource use and development

without control for wilderness protection. The degree of future development is unknown; however, the potential for oil and gas and geothermal resources is thought to be low and disturbances projected for these resources are unlikely to occur. The potential for locatable minerals ranges from low to moderate and disturbances projected for their development are more likely. The following is a worst-case analysis, based on the assumption that minerals would be developed sometime in the future and would result in the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; beryllium, 140 acres; and lead, zinc, tungsten, silver, and gold, 140 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area. Operation of IPP could result in degradation of air quality up to the Class II limitations. Depending on meteorological conditions, a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979). Disturbance of up to 446 acres (0.87 percent of WSA) would result in only minor increases in fugitive dust emissions.

### GEOLOGY

No impacts to geology are expected because disturbances associated with locatable minerals and oil and gas and geothermal exploration and development activities would disturb only the surface or would require only widely spaced wells and would probably not exceed 446 acres. This would not change the geologic structure of the area.

### SOILS

It is estimated that up to 446 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur in areas with slight erosion class (worst-case analysis) and that erosion condition would increase one class (to moderate, with an annual soil loss of 1.3 cubic yards/acres) soil loss on the 446 acres would increase from 268 cubic yards/year to 580 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 312 cubic yards (1 percent) over the WSA's current annual soil loss of 30,678 cubic yards to 30,990 cubic yards. This is a small increase and the effects would likely be imperceptible.

### VEGETATION

Up to 446 acres could be subject to surface-disturbing activities related to mineral and energy exploration and development. This could permanently modify portions of existing vegetation types. However, less than 1 percent of the area would be affected; therefore, no major change in any vegetation type would be expected.

Three species of sensitive (candidate threatened or endangered) plants are found within or near the WSA. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy (refer to Appendix 4). If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these plants, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive species would be preserved with the No Action Alternative.

### WATER RESOURCES

Since precipitation is low and all streams are ephemeral within the WSA, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 312 cubic yards of annual soil loss from surface disturbance. Opportunities for or expansion of existing water sources could occur as allowed in the current MFP for the House Range Resource Area. None are currently planned.

Mineral and energy exploration and development in the area is generally confined at or near the surface or with widely spaced wells; therefore, these activities are not expected to affect the quality of ground water.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

*Oil and Gas*

The potential for up to 10 million barrels of oil in-place (3 million estimated recoverable) and up to 60 billion cubic feet of natural gas (18 billion estimated recoverable) exists within the WSA. This resource could be recovered under this alternative. Oil and gas resources could be

explored and developed, subject to Category 1 stipulations on 42,500 acres and Category 3 stipulations on 4,800 acres. Approximately 3,830 acres would be managed as Category 4 and existing leases on this acreage would expire and not be reissued. However, approximately 5,530 unleased acres could be leased in the future. As much as 160 acres of surface disturbance could take place if exploration and development were to occur in the WSA. However, due to the small size of these deposits, no development is expected under this alternative.

*Geothermal*

The WSA would remain open to geothermal leasing, and the potential low temperature geothermal resource could be developed under this alternative. However, it is unlikely that it would be developed due to lack of demand and unfavorable economic conditions.

**Locatable Minerals**

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. The potential deposit of up to 50 thousand tons of lead/zinc, up to 10 tons of beryllium, up to 500 tons of tungsten, and minor quantities of gold, silver, copper, platinum, rubidium, and molybdenum could be developed. Most of these are considered strategic and critical minerals. Approximately 280 acres could be disturbed due to exploration and development of these locatable mineral resources. The likelihood of development is thought to vary from low to moderate due to economic considerations (e.g., transportation, low potential, small amounts of resource, etc.). Because minerals are known to occur in the WSA and some production has occurred in the past, there is a possibility of future production.

## WILDLIFE

Under this alternative, wildlife could benefit from future habitat developments, although none are currently planned. However, disturbance of an estimated 446 acres (0.87 percent of the WSA) through mineral and energy exploration and development would temporarily disrupt wildlife. Disturbance of 446 acres would include disturbance of raptor habitat including crucial yearlong golden eagle habitat. The disturbance would occur within the area of yearlong habitat for mule deer and could occur in the area of chukar habitat (3,195 acres), thus reducing habitat. However, habitats would be restored and possibly even improved upon reclamation. Deer (currently about 10 animals) and mobile nongame animals would be dispersed from the disturbed area for the lifetime of the activities. Less mobile wildlife would either perish or co-exist with these disturbances at smaller and less viable population levels.

Peregrine falcon and bald eagle (both endangered species) and golden eagle (a sensitive species) would also avoid the disturbed area. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy (refer to Appendix 4). If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these birds, it can be reasonably concluded that the viability of populations of threatened, endangered, and sensitive species would be preserved under the No Action Alternative.

## FOREST RESOURCES

This alternative would allow the harvest of forest products of up to 3,761 cords of firewood, 389 fenceposts, 36.5 MBF of timber, and 955 lbs. of pine nuts. Vehicular access could be developed. Although this alternative would generally be favorable to forest management, benefits would be insignificant because the present harvest is less than 15 cords of firewood annually and no significant increase is expected. No significant loss or harvest of forest products is expected under this alternative.

## LIVESTOCK

Domestic livestock grazing would continue as authorized in the House Range MFP. The 3,072 AUMs currently allocated in the WSA are controlled by 14 livestock permittees. Additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. None are currently planned and few, if any, changes in livestock management techniques are expected under this alternative. Temporary loss of forage due to mineral disturbance would occur on less than 1 percent of the WSA and would not significantly affect livestock management or use of the WSA.

## VISUAL RESOURCES

Under this alternative, visual quality in the WSA would be somewhat protected by limitations placed on potential surface-disturbing activities,

including management under oil and gas leasing Category 3 on 3,100 acres and Category 4 on 3,830 acres. However, 446 acres of mineral-related exploration and development are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality (possibly including areas of Class A [high quality] scenery) would be degraded in localized areas during the period of activity. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worst-case analysis), visual quality could be reduced in the WSA as a whole.

Under the variation to this alternative, 9,000 acres would be somewhat protected if designated a National Natural Landmark. An ORV closure, mineral withdrawal, and leasing closure would aid in protection of the 9,000 acres that would be designated. Impacts would be the same as those described under the 9,000-acre Partial Wilderness Alternative in this document.

### CULTURAL RESOURCES

Disturbance of 446 acres (0.86 percent of the WSA) by mineral and energy exploration and development under this alternative could impact cultural resources through loss and vandalism due to unrestricted ORV activity and increased access. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would mitigate impacts. Inadvertent loss or damage could occur in the disturbed area. Although there is high potential for cultural resources in this WSA, the overall effect on cultural resources from this alternative is expected to be minimal due to mitigative measures and to the small amount of surface disturbance or recreational use anticipated. Vandalism would increase in proportion to the general population increase.

### RECREATION

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 250 current visitor days per year to 373 visitor days at the end of 20 years. Eventually, primitive recreational use could decline as vehicular use increased.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative mineral-related exploration and development are possible on 446 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, roads and ways created for mineral and energy exploration and development would improve access into the area for nonprimitive recreation. The use of vehicles as a means of access for recreational activities could continue. Twenty miles of ways would be left open to ORV use and new roads could be developed. Notch Peak, a unique natural landmark, would not have the benefit of any designation and little protection (management under leasing Category 3 on 3,100 acres and Category 4 on 3,830 acres) would somewhat protect the peak area of the WSA, and its primitive recreational values could be reduced or lost by mineral development.

Under the variation to this alternative, 9,000 acres would be somewhat protected if designated a National Natural Landmark. An ORV closure, mineral withdrawal, and leasing closure would aid in protection of the 9,000 acres. Impacts would be the same as those described under the 9,000-acre Partial Wilderness Alternative in this document.

### WILDERNESS VALUES

None of the area would be designated wilderness, and management would be under the existing House Range MFP. Possible mineral and energy exploration and development could disturb an estimated 446 acres.

Under the No Action Alternative, all lands could be open to disturbance except where management of 3,100 acres as leasing Category 3 and 3,830 acres as Category 4 would somewhat protect wilderness values.

However, wilderness values in this WSA (i.e., naturalness in the entire WSA, outstanding opportunities for solitude and primitive recreation on 28,130 acres, and the special features of the peak itself and bristlecone pine in higher elevations) could be lost or diminished in affected areas. The related 446 acres of surface disturbance would result in a significant loss of naturalness and outstanding opportunities for solitude and primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

Under the variation to this alternative, 9,000 acres would be somewhat protected if designated a National Natural Landmark. An ORV closure, mineral withdrawal, and mineral leasing closure would aid in protection of the 9,000-acre affected area. Impacts would be the same as identified in the 9,000-acre Partial Wilderness Alternative in this document.

#### LAND USE PLANS AND CONTROLS

The land use plans applicable to the lands included in this WSA do not address wilderness. The No Action Alternative is based on implementation of the current BLM House Range MFP and is, therefore, in conformance with it. This alternative would be consistent with State of Utah plans and policies which emphasize economic return.

This alternative is generally consistent with the *Millard County Master Plan*, which supports multiple use of public lands in the county, because most uses would be allowed under this alternative, although oil and gas development would be restricted on 6,930 acres. Greater restrictions on mineral development would be applied under the variation to this alternative in which Notch Peak would be designated a National Natural Landmark.

#### SOCIOECONOMICS

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain essentially as at present. If the oil and gas, geothermal, and locatable minerals in the WSA were developed it would lead to an increase in employment and income for Millard County. However, the probability of economic development of leasable minerals within the WSA is low. Locatable minerals are known to exist in the WSA and there has been some production in the past (refer to the Mineral and Energy Resources section for a description of mineral and development potentials).

There would be no livestock-related economic losses because the existing grazing use (3,072 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Because recreational use in the area is estimated to increase to only 373 visitor days per year at the end of 20 years and overall recreation-related expenditures average only $4.10 per visitor day (only a portion of which contributes to the local economy), recreation-related expenditures attributable to the WSA would likely not be significant to the local economy.

Federal and State revenues would not be reduced by this alternative. Approximately 3,830 acres of existing oil and gas leases would be phased out to meet Category 4 restrictions resulting in a loss of Federal revenues of up to $11,490 per year. However, there are 5,530 acres in the WSA open to oil and gas leases that are currently not leased. If leased they would bring up to $16,590 additional Federal lease fee revenues per year in addition to lease revenues currently received. Half of these monies would be allocated to the State, a portion of which could reach the local economy. Collection of livestock grazing fees (approximately $4,301 per year) would continue. About 50 percent of the revenues would be returned to the local BLM office for use in range improvement projects.

### All Wilderness Alternative (51,130 Acres)

As identified in the Description of the Alternatives section, the major changes that could occur in the 51,130-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 20 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as discussed in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 280 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas and geothermal resources would not be allowed. (Appendix 10 lists surface disturbance assumptions and estimates for the WSA.)

Because potentially disturbed areas for this alternative would be smaller than under the No Action Alternative (280 vs. 446 acres) the impacts from development and surface disturbance on air quality, geology, soils, vegetation, water, livestock, forest, and cultural resources under the All Wilderness Alternative would be insignificant as

described for the No Action Alternative. Wilderness designation would provide additional protection to these resources because it would reduce the potential for disturbance. Other effects on these resources due to changes in management are discussed below.

## VEGETATION

Three species of sensitive (candidate threatened or endangered) plants are found within or near the WSA. Before authorizing surface-disturbing activities (280 acres potential) the BLM would conduct site-specific clearances of the potentially disturbed areas and carry out the measures described for the No Action Alternative. Because necessary measures would be taken to protect these plants, it can be reasonably concluded that the viability of populations of threatened, endangered, or sensitive plant species would be preserved under the All Wilderness Alternative. This alternative would provide additional protection because it would reduce potential surface disturbance from what could occur under the No Action Alternative.

## WATER RESOURCES

Improvements or expansion of existing water improvements could not occur; none are currently proposed. Mineral exploration and development in the area is generally confined at or near the surface or with widely spaced wells, and related activities are not expected to significantly impact ground water.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

Approximately 45,600 acres (600 acres pre-FLPMA and 45,000 acres post-FLPMA) are under oil and gas leases. However, no exploration or development of oil and gas is presently occurring within the WSA. Presently oil and gas categories are as follows: Category 1, 42,500 acres; Category 3, 4,800 acres; and Category 4, 3,830 acres.

Existing pre- and post-FLPMA leases could be developed subject to the stipulations issued at the time of leasing. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases will not be reissued.

Exploration for and development of a potential resource of up to 10 million barrels of oil in-place and less than 60 billion cubic feet of natural gas with 3 million barrels of oil and 18 billion cubic feet of natural gas potentially recoverable could be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in any significant loss of potential oil and gas recovery.

*Geothermal*

The low temperature geothermal resource could not be recovered under this alternative. This loss is considered insignificant because of lack of demand and unfavorable economic conditions. It is unlikely that the resource would be developed even without wilderness designation.

### Locatable Minerals

Approximately 11,000 acres are under mining claim (175 claims) within the WSA. Up to 50,000 tons of lead/zinc, up to 10 tons of beryllium, up to 500 tons of tungsten, and minor quantities of gold, silver, and copper could occur within the WSA. Most of these are considered strategic and critical minerals. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to wilderness values. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed before designation. In that case the potential for recovery of the lead, zinc, tungsten, gold, silver, copper, and beryllium would be foregone. Because these metals are known to occur in the WSA and some production has occurred in the past, the opportunity for recovery of important minerals could be foregone.

It is estimated that up to 280 acres could be disturbed due to exploration of locatable mineral resources should this alternative be adopted.

## WILDLIFE

Because wilderness designation would restrict ORV activity and protect the natural character and solitude of the WSA, wildlife would generally benefit from this alternative.

However, water is a limiting factor for wildlife in this WSA. If future water improvements (none are currently planned) were curtailed, potential habitat improvements for deer, antelope, and nongame species would be reduced. However, some water developments such as spring improvements or guzzlers could meet wilderness protection criteria. Disturbance due to exploration and development of locatable mineral resources on up to 280 acres, including portions of yearlong habitats for mule deer and possibly on portions of

chukar habitat (3,195 acres), could disrupt wildlife populations and result in mobile species leaving the area during the period of activity. Less mobile species would remain in this area at less viable numbers. However, reclamation would restore habitat to its present or better condition.

The occasional presence of the peregrine falcon and bald eagle (both endangered species) and golden eagle (a sensitive species) would remain the same in much of the WSA, except on those 280 acres of mineral disturbance where these species would leave the area. This surface disturbance includes crucial yearlong golden eagle habitat.

Before authorizing surface-disturbing activities, the BLM would conduct site-specific clearances of the potentially disturbed areas and carry out the measures described for the No Action Alternative. Because necessary measures would be taken to protect these species and because of the reduction of the potential surface disturbance that would occur with wilderness designation, it can be reasonably concluded that the viability of populations in the area would be preserved under the All Wilderness Alternative.

### FOREST RESOURCES

There would be no commercial harvest of timber, firewood, or fenceposts allowed after designation. The potential harvest of 3,761 cords of firewood, 389 posts, and 36.5 MBF lumber would not be realized. Pine nuts could be harvested, but motorized access would be prohibited. Since present utilization is presently less than 15 cords of firewood annually and no significant increase in demand is expected, any loss in the ability to harvest this resource would be insignificant.

### LIVESTOCK

Present domestic livestock grazing would continue as authorized in the House Range MFP. The 3,072 AUMs currently allocated in the WSA are controlled by 14 livestock permittees.

Rangeland improvements (1 mile of fence and a cattleguard) would be maintained as in the past, based on practical necessity and reasonableness. New rangeland improvements would be allowed if determined necessary for the purposes of rangeland and/or wilderness protection and the effective management of these resources. However, future roads or other livestock management facilities could be restricted to preserve wilderness values. No management facilities are currently planned within the WSA. There is no potential for vegetation treatment in the WSA.

Livestock grazing would continue but motorized activities in connection with grazing would be restricted after designation and could inconvenience operators. The 20 miles of existing ways would be restricted to vehicular access except by permit. Restrictions on the ability to haul water for sheep management could be detrimental to livestock operations.

### VISUAL RESOURCES

Wilderness designation would contribute to the preservation of the area's visual resources. Under this alternative, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through closure of the area to ORVs, and through closure of the entire area to future mineral leasing and location.

Under this alternative possible mineral-related surface disturbance would be reduced from 446 acres to 280 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. If roads for development of valid mining claims could not be denied (worst-case analysis), VRM Class I objectives might not be met on large portions of the WSA. However, with the reduction in potential disturbance and with mitigation applied to protect wilderness values, the potential for visual resources to be degraded in the area as a whole is less under this alternative than under the No Action Alternative.

### CULTURAL RESOURCES

Approximately 280 acres (0.55 percent of WSA) could be disturbed by mineral exploration and development in areas that would be designated wilderness; however, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any and all proposed surface disturbance and would mitigate adverse impacts. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal.

There is a potential for increased vandalism to cultural resources due to increased recreational use of the WSA. However, protection afforded by wilderness management would outweigh any potential vandalism problems caused by recreational activity, and the overall impact would be positive.

## RECREATION

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. Visitor use attributed to vehicular hunting and sightseeing in the WSA that could occur without designation would be eliminated from the WSA. These activities could continue from foot or on horseback. The closure of vehicular ways into Sawtooth Cove and Miller Cove would make hiking distances to Notch Peak from Hell'n Maria and Sawtooth Canyons longer. This would improve some people's primitive recreational experience, but reduce the quality of the experience for others. The roads into Amasa Valley would remain open, and hiking access from that area would not change.

Because there are suitable ORV play areas in the vicinity of the WSA, ORV use would probably not experience an overall decline in the vicinity of the WSA. As primitive recreation use increases, commercial operations based on primitive recreational activities could apply for use of the WSA and benefit from wilderness designation.

Although visitor use is currently low (about 251 visitor days a year), the WSA has outstanding primitive recreational values. If designated, those high quality primitive recreational opportunities would be recognized, managed, and protected.

If roads for development of valid mining claims could not be denied, the quality of primitive recreational opportunities could be reduced throughout the area. Because wilderness designation would reduce the potential for surface disturbance from 446 to 280 acres and because mitigation to protect wilderness values would be applied, the quality of primitive recreational opportunities would be less likely to be reduced in the area as a whole than under the No Action Alternative.

It is concluded that this alternative could benefit recreation by reducing the likelihood for surface-disturbing activities and increasing management attention and recognition of primitive recreational values.

## WILDERNESS VALUES

Designation and management of all 51,130 acres as wilderness would contribute to the preservation of the wilderness values of size, naturalness, outstanding opportunities for solitude and primitive recreation, and special features. Naturalness would be protected on the entire area. Outstanding opportunities for solitude would be protected on the approximately 28,130 acres that meet the *Wilderness Act* standards. Outstanding opportunities for primitive and unconfined recreation would be protected on 28,130 acres that meet the *Wilderness Act* standards. The special features in this WSA (i.e., Notch Peak and bristlecone pine stands) would also be protected and preserved.

Outstanding opportunities for two primitive recreational activities rated excellent in quality (dayhiking and geological sightseeing) would be protected. Although recreational use could increase (refer to Recreation section above), use relative to the size of the area would probably be low. Therefore, no significant effect on solitude and primitive recreational values would be expected from increased recreational use.

Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through closure of the area to ORV use, and through closure of the entire area to future mineral leasing and location.

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would, therefore, be reduced from 446 acres to 280 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed if there are no reasonable alternatives. Because there are 11,000 acres (21.5 percent of the WSA) throughout the WSA under mining claim, mineral-related disturbance (including new access roads for mining claim development) would eliminate solitude, naturalness, and the opportunity for primitive and unconfined recreation on the affected areas and could reduce these values in the area as a whole until the disturbed areas are significantly reclaimed. However, because mitigation would be imposed to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The existing BLM House Range MFP does not provide for wilderness designation. The Warm Springs RMP scheduled for completion in 1987 will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

The *Millard County Master Plan* does not address wilderness. Wilderness designation would be generally consistent with the county's plans because most resource uses would be allowed, although under more restrictive conditions. It would be inconsistent with the county's concept of multiple use because mineral location would not be allowed and leases would be phased out upon expiration.

If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 8) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low to moderate (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because minerals are known to exist in the WSA and some production has occurred in the past, there would be a reduced potential for future mineral-related local income. In addition, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $61,440 of livestock sales and $15,360 of ranchers' return to labor and investment. Proposed improvements for livestock would be foregone along with any resulting increase in ranchers' income. No such potential range improvements have been proposed.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and would only be significant to the commercial outfitters that may begin to use the WSA. Motorized recreational use of the WSA is light. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

The loss of 41,770 acres of existing leases that would continue under the No Action Alternative would cause an eventual loss of up to $125,310 per year of lease fees to the Federal Treasury. There would also be a potential loss of up to $16,590 annually in Federal revenues from the 5,530 acres that could be leased without designation.

No existing rights-of-way or permits would be eliminated through wilderness designation.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases.

## Partial Wilderness Alternative (28,000 Acres)

## (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 28,000-acre area designated as wilderness and the 23,130-acre nondesignated area are discussed in the Description of the Alternatives section.

It is assumed that, in the designated area, some of the existing mining claims would eventually be explored and developed, causing an estimated 154 acres of disturbance. It is also assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities. Oil and gas leases would not be renewed and future leasing of oil and gas and geothermal resources would not be allowed.

It is assumed that, within the nondesignated area, 72 acres would be disturbed sometime in the

future due to oil and gas exploration and development, and 3 acres would be disturbed due to geothermal exploration and development. It is estimated that 63 acres would be disturbed due to beryllium development and 63 acres disturbed due to other locatable mineral development in this portion of the WSA. Overall, 355 acres of surface disturbance could occur within the WSA, 91 acres less than under the No Action Alternative and 75 acres more than with the All Wilderness Alternative. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

The analysis of the No Action Alternative, based on 446 acres of surface disturbance, shows that full development of potential resources with associated surface disturbance would not significantly affect air quality, geology, soils, vegetation, water, livestock, forest, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative, which assumes 355 acres of surface disturbance.

Restrictions on management and development methods within the WSA would result in essentially the same impacts on water sources, mineral and energy resources, wildlife, livestock, and land use plans as described for the All Wilderness Alternative. The following analysis describes the differences between the Partial Wilderness, No Action, and All Wilderness Alternatives.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. There are approximately 25,570 acres of existing oil and gas leases in the area that would be designated wilderness; all of these acres are post-FLPMA leases. Activities on these leases would occur subject to the stipulations issued at the time of leasing. Leases would be phased out upon expiration. Due to wilderness nonimpairment stipulations and the lack of oil and gas values, it is unlikely that the resource would be developed under existing leases and they would be phased out upon expiration.

It cannot be determined how much of the existing potential resource of 10 million barrels of in-place oil and less than 60 billion cubic feet of natural gas falls within the area that would be designated as wilderness under this alternative. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated to be recoverable. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 1.7 million barrels of oil and 10 billion cubic feet of natural gas could be foregone. This would allow recovery of 1.3 million more barrels of oil and 8 billion more cubic feet of natural gas than with the All Wilderness Alternative.

The area that would not be designated wilderness (23,130 acres) would continue to be managed under leasing Category 1 on 22,950 acres and Category 3 on 180 acres. The existing 20,030 acres of oil and gas leases in this portion of the WSA could be developed without wilderness considerations, and new leases could be issued.

Due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of the oil and gas resource.

*Geothermal*

This alternative would restrict development of the low gradient geothermal resource to the 23,130-acre nondesignated portion of the WSA. It is unlikely that the resource would be developed under this alternative. Because of lack of demand and unfavorable economics, development would probably not occur even without wilderness designation.

### Locatable Minerals

Approximately 5,756 acres of mining claims (52 percent of the existing claims) are within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with wilderness considerations. After designation, all other lands in this area (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b).

It cannot be determined how much of the potential 50,000 tons of lead/zinc, 10 tons of beryllium, 500 tons of tungsten, and minor amounts of gold, silver, copper, and other locatable minerals in the WSA fall within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that mineral deposits are not included in mining claims filed before designation, the potential for recovery of up to 27,000 tons of lead/zinc, 5.5 tons of beryllium, and 275 tons of tungsten would be foregone. Much of the gold,

silver, copper, and other locatable minerals would be foregone as well. This would allow for recovery of 23,000 more tons of lead/zinc, 4.5 more tons of beryllium, 225 more tons of tungsten, and approximately 45 percent more gold, silver, copper, and other locatable minerals than in the All Wilderness Alternative. Most of these have been identified as strategic and critical minerals.

Because these minerals are known to occur in the WSA and some production has occurred in the past, the opportunity to recover a portion of the locatable mineral values in the WSA would be lost.

### WILDLIFE

Wildlife habitat in the area that would be designated would benefit by the protection from surface disturbance and motorized vehicle activity. Under this alternative, as much as 335 acres of wildlife habitat (including yearlong habitat for mule deer, crucial yearlong habitat for golden eagle, and possibly portions of chukar habitat) could be temporarily disturbed from mineral and energy development in the WSA. Almost all of the 3,195 acres of chukar habitat would be in the designated wilderness under this alternative, so the potential for disturbance would be reduced.

Mobile species would leave the disturbed area during the period of activity. Less mobile species would remain in the area with less viable members. However, reclamation would restore habitat to its present or better condition. As discussed in the All Wilderness Alternative, peregrine falcon and bald eagle (threatened or endangered) and golden eagle (sensitive) species in the area would benefit from the reduction in potential surface disturbance.

### FOREST RESOURCES

There would be no harvest of timber, firewood, or fenceposts allowed in the wilderness portion after designation. This would preclude the potential harvest of approximately 55 percent of the 3,761 cords of firewood, 389 fenceposts, and 36.5 MBF timber in the WSA. Since present utilization of forest products is limited to about 15 cords of firewood per year and no increase is expected, it is unlikely that this alternative would result in any loss or commercial harvest of forest resources.

### LIVESTOCK

The effect of designation of 28,000 acres of the WSA as wilderness on domestic livestock grazing would be similar to that occurring under the All Wilderness Alternative. Of the 3,072 AUMs allocated, 1,038 would be within the designated portion of the WSA and 2,034 within the nondesignated portion. Development of future roads or other livestock management facilities for use with 1,038 AUMs (988 of sheep use and 50 of cattle use) in the designated portion could be restricted to preserve wilderness values. No management facilities are currently planned for the WSA, nor are there opportunities for vegetation treatment. Little effect on the management of livestock grazing is expected under this alternative except that 7 miles of existing ways are in the area that would be designated wilderness and restrictions on vehicular use in this area could inconvenience livestock operators. There are 13 miles of existing vehicular ways, including those in the Sawtooth Cove area, that would not be within the area designated wilderness; therefore, motorized access for hauling water and managing sheep would be maintained in most of the area and there would be less potential for adverse impacts on livestock operations under this alternative than under the All Wilderness Alternative. The temporary loss of forage due to mineral disturbance would occur on less than 1 percent of the WSA and would not significantly affect livestock management or use of the area.

### VISUAL RESOURCES

Because total surface disturbance in the WSA would be 355 acres under this alternative as opposed to 446 acres under No Action and 280 acres under All Wilderness, the impact on visual resources would be less than under the No Action Alternative and slightly more than under the All Wilderness Alternative.

Wilderness designation of 28,000 acres would contribute to the preservation of the area's visual resources. In the area that would be designated, the potential for surface-disturbing activities that could impair visual quality would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the entire area to future mineral leasing and location. All 3,100 acres of the Class A (high quality) scenery is in the portion of the WSA that would be designated. The remainder of the designated portion is Class B scenery.

Under this alternative the surface disturbance in the area that would be designated wilderness would be reduced to 154 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would

not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected.

If roads for development of valid mining claims are located throughout the WSA (worst-case analysis), visual resources might be degraded throughout the WSA. Because stipulations would be applied to protect wilderness values in the designated area and because possible disturbance would be reduced in the designated portion, the potential for visual resources to be degraded in the area as a whole is less under this alternative than under the No Action Alternative.

### CULTURAL RESOURCES

The overall impact to the cultural resources resulting from implementation of this alternative would be positive because of the protection afforded by wilderness management in the area that would be designated.

As much as 355 acres could be disturbed by mineral and energy exploration and development in the WSA under this alternative. However, inventories for cultural resources would be required prior to these activities and would identify cultural sites and mitigate any potential adverse impacts. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal. The protection afforded by wilderness management would outweigh any potential vandalism problems caused by an increase in recreational activity in the area. The overall impact of this Partial Wilderness Alternative would be positive.

### RECREATION

Although visitor use is currently low (about 251 visitor days a year), the WSA has outstanding primitive recreational values. The highest quality areas would be recognized, managed, and protected under this alternative.

Impacts on recreational values and opportunities for the 28,000-acre area that would be designated as wilderness would be as described in the All Wilderness Alternative. Recreational use increases would also be as described for that alternative.

Approximately 7 miles of ways in the designated area would be closed to ORV use. Approximately 13 miles of existing ways outside the designated area would remain open to vehicular use for recreational access under this alternative, and new roads could be developed in this portion of the unit. The quality of some users' primitive recreational experience could be reduced by ORV use in the undesignated portion of the unit. Vehicular ways in Sawtooth and Hell'n Maria Canyons would remain open under this alternative and would continue to be used for access to these popular hiking areas. This would degrade some users' primitive recreational experience, but would probably be seen as an advantage to others.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Mineral-related exploration and development are possible on 355 acres under this alternative. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the WSA altogether. However, roads and ways created for mineral and energy exploration and development would improve access into the area for nonprimitive recreation.

If roads for development of valid mining claims could not be denied in the area that would be designated, the quality of primitive recreational opportunities would be reduced even in that area.

### WILDERNESS VALUES

Wilderness designation of 28,000 acres would contribute to the preservation of the area's wilderness values. In the portion of the WSA that would be designated, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the entire area to future mineral leasing and location.

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 28,000 acres that would be designated wilderness. Size, naturalness (all 28,000 acres appear natural), outstanding opportunities for solitude (all 28,000 acres meet the standard) and primitive and unconfined recreation (all 28,000 acres meet the standard), and the WSA's special features (including Notch Peak and bristlecone pine) would be protected. Although recreational use could increase (refer to Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected from increased recreation. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration activities on up to 154 acres within the designated portion.

In the 23,130-acre area that would not be designated, there would be up to 201 acres of disturbance from mineral and energy exploration and

development activities. The wilderness values that could be degraded in this portion of the area include naturalness in the entire area and outstanding opportunities for solitude and primitive recreation on 130 acres. Long-term impairment of wilderness values in the portion that would not be designated could occur. Additionally, sights, sounds, and emissions of activities within and adjacent to the 23,130-acre area that would not be designated could result in loss of solitude and primitive recreational values within the designated portion.

In summary, mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive and unconfined recreation on the affected areas and could reduce these values in the WSA as a whole until the disturbed areas are satisfactorily reclaimed. However, because the potential for disturbance would be reduced in the designated area and mitigation would be imposed to protect wilderness values in the designated portion, loss of these values in the WSA as a whole would be less likely than under the No Action Alternative.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

#### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 8) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low to moderate (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the designated portion (28,000 acres). Precluding exploration and development of minerals in this area would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because locatable minerals are known to exist in the WSA and some production has occurred in the past, designation of 55 percent of the WSA could lead to a slightly reduced potential for mineral-related local income as compared to the No Action Alternative. In addition, any local income related to assessment of future mining claims in the designated area would be lost.

Livestock use and ranchers' income would continue as at present with $61,440 of livestock sales and $15,360 of ranchers' return to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and would only be significant to the commercial outfitters that may begin to use the area. Motorized recreational use of the WSA is light. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

The loss of 21,740 acres of existing leases that would continue with the No Action Alternative would cause an eventual loss of up to $65,220 per year of lease fees to the Federal Treasury. There would also be a potential loss of up to $7,290 annually in Federal revenues from the 2,430 acres that could be leased without designation.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases.

### Partial Wilderness Alternative (9,000 Acres)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 9,000-acre area designated as wilderness and the 42,130-acre nondesignated area are discussed in the Description of the Alternatives section.

It is assumed that, in the designated area, some of the existing mining claims would eventually be explored and developed, causing an estimated 50 acres of disturbance. It is also assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities. Oil and gas leases in this portion would not be reissued and future leasing of oil and gas and geothermal resources would not be allowed.

It is assumed that, within the nondesignated area, 130 acres would be disturbed sometime in the future due to oil and gas exploration and development, and 5 acres would be disturbed due to geothermal exploration and development. As much as 115 acres would be disturbed due to beryllium development and as much as 115 acres would be disturbed due to development of lead, zinc, tungsten, gold, silver, and copper. Overall, as much as 415 acres of surface disturbance could occur within the WSA; 31 acres less than under the No Action Alternative, 135 acres more than with the All Wilderness Alternative, and 60 acres more than the Partial Wilderness Alternative of designating 28,000 acres. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

The analysis of the No Action Alternative, based on 446 acres of surface disturbance, shows that full development of potential resources with associated surface disturbance would not significantly affect air quality, geology, soils, vegetation, water, livestock, forest, and cultural resources. Therefore, these resources would not be significantly affected by this Partial Wilderness Alternative which is based on 415 acres of surface disturbance.

Restrictions on management and development methods within the WSA would result in essentially the same impacts on development of water sources, mineral and energy resources, wildlife, livestock, and land use plans as described for the All Wilderness Alternative. The following analysis describes the differences between the No Action, All Wilderness, and Partial Wilderness Alternatives.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

*Oil and Gas*

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. There are approximately 8,680 acres of oil and gas leases in this area (all 8,680 acres are post-FLPMA). Activities on these leases would occur subject to the stipulations issued at the time of leasing. Leases would be phased out upon expiration. Due to wilderness nonimpairment stipulations and to the lack of oil and gas values in the area, it is unlikely that development would occur under existing leases and they would be phased out upon expiration.

It cannot be determined how much of the existing potential resource of 10 million barrels of in-place oil and less than 60 billion cubic feet of natural gas falls within the area that would be designated as wilderness under this alternative. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated to be recoverable. It is assumed that the loss of potential resource recovery would be in direct proportion to the size of the area designated. Using this assumption, exploration and development of a potential resource of up to 0.5 million barrels of oil and 3 billion cubic feet of natural gas could be foregone. This would allow recovery of 2.5 million more barrels of oil and 15 billion more cubic feet of natural gas than with the All Wilderness Alternative.

The area that would not be designated wilderness (42,130 acres) would continue to be managed under leasing Category 1 on 36,300 acres, Category 3 on 3,120 acres, and Category 4 on 2,710 acres. The existing 36,920 acres of oil and gas leases outside the designated area could be developed and new leases could be issued without wilderness considerations. Eventually 2,710 acres of existing oil and gas leases could be phased out upon expiration to meet Category 4 restrictions.

It is concluded that, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of the oil and gas resource.

*Geothermal*

This alternative would restrict development of the low gradient geothermal resource to the nondesignated 42,130-acre portion of the WSA. This would allow for recovery of most if not all of the potential low temperature resource. It is unlikely that the resource would be developed, however, due to the lack of demand and unfavorable economic conditions.

### Locatable Minerals

Approximately 800 acres of mining claims (19) fall within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. After designation, all other lands within the designated area (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b).

It cannot be determined how much of the potential 50,000 tons of lead/zinc, 10 tons of beryllium, 500 tons of tungsten, and minor amount of gold, silver and copper in the WSA fall within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits are not included in mining claims filed before designation, the potential for recovery of up to 9,000 tons of lead/zinc, 2 tons of beryllium, and 90 tons of tungsten would be foregone. This would allow for recovery of 41,000 more tons of lead/zinc, 8 more tons of beryllium, 410 more tons of tungsten and approximately 80 percent more gold, silver, and copper than the All Wilderness Alternative.

### WILDLIFE

Wildlife habitat in the designated area would benefit by the protection from surface disturbance and motorized vehicle activity. Under this alternative, as much as 415 acres of wildlife habitat for mule deer, crucial yearlong habitat for golden eagle, and possibly portions of chukar habitat could be temporarily disturbed from mineral and energy development in the WSA. Almost all of the 3,195 acres of chukar habitat would be in the nondesignated area under this alternative and the potential for disturbance is about the same as the No Action Alternative.

In the area not designated, wildlife and habitat would be negatively affected by surface disturbance plus motorized activity associated with mineral development and other land uses. However, reclamation would restore habitat to its present or better condition. Mobile species would leave the disturbed area during the period of activity. Less mobile species would remain in the area at a less viable population. As discussed in the All Wilderness Alternative, peregrine falcon and bald eagle (threatened or endangered) and golden eagle (sensitive) species in the area would benefit from the reduction in potential surface disturbance.

### FOREST RESOURCES

The opportunity to harvest forest products would remain on most of the WSA. The area that would be designated and, therefore, closed to forest product harvest under this alternative is mostly inaccessible for harvest, and no use is currently occurring. Therefore, no change in harvest or loss of forest products is expected under this alternative.

### LIVESTOCK

The effects of designation of 9,000 acres of the WSA as wilderness on domestic livestock grazing would be essentially the same as with the No Action Alternative. Of the 3,072 AUMs allocated in the WSA, 310 would be within the designated portion of the WSA and 2,762 within the nondesignated portion. Development of future roads or other livestock management facilities for use with the 310 AUMs in the designated portion could be restricted to preserve wilderness values. However, no management facilities are planned for the area that would be designated nor are there opportunities for vegetation treatment. No effect on the management of livestock grazing is expected under this alternative. There are currently no vehicular ways or motorized activities in connection with grazing in this portion of the WSA; therefore, no changes in current use of vehicles for livestock management are expected. The temporary loss of forage due to mineral disturbance would occur on less than 1 percent of the WSA and would not significantly affect livestock management or use of the area.

### VISUAL RESOURCES

Because total surface disturbance in the WSA would be 415 acres under this alternative, as opposed to 446 acres under the No Action Alternative and 280 acres under the All Wilderness Alternative, the impact on visual resources would be slightly less than under No Action and more than under All Wilderness.

Wilderness designation of 9,000 acres would contribute to the preservation of the area's visual resources. In the area that would be designated, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the area to future mineral leasing and location. All of the Class A (high quality) scenery (3,100 acres) is in the portion of the WSA that would be designated.

Under this alternative, the possible mineral-related surface disturbance in the designated area would be 50 acres, associated with development of valid mining claims. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected.

If roads for development of valid mining claims are located throughout the WSA (worst-case analysis), visual resources could be degraded

throughout the WSA. Because stipulations would be applied to protect wilderness values in the designated area and because possible disturbance would be reduced in the designated portion, the potential for visual resources to be degraded in the area as a whole is slightly less under this alternative than under the No Action Alternative.

### CULTURAL RESOURCES

The overall impact to the cultural resources resulting from implementation of this alternative would be positive because of the protection afforded by wilderness management in the area that would be designated.

As much as 415 acres could be disturbed by energy and mineral exploration and development in the WSA under this alternative. However, inventories for cultural resources conducted prior to these activities would identify the sites and any potential adverse impacts to them would be mitigated. Inadvertent loss or damage to cultural resources could occur; however, these impacts are expected to be minimal. The protection afforded by wilderness management would outweigh any potential vandalism problems caused by an increase in recreational activity in the area. The overall impact of this Partial Wilderness Alternative would be positive.

### RECREATION

Although visitor use is currently low (about 251 visitor days a year), the WSA has outstanding primitive recreational values. Much, although not all, of the highest quality area would be recognized, managed, and protected under this alternative.

Impacts to recreational values and opportunities for the 9,000-acre area that would be designated as wilderness would be as described in the All Wilderness Alternative. Recreational use increases would also be as described for that alternative.

All 9,000 acres that would be designated would be closed to ORV use. Approximately 20 miles of existing ways outside the designated area would remain open to vehicular use for recreational access under this alternative, and new roads could be developed in this portion of the unit. The quality of some users' primitive recreational experience would be reduced by ORV use in the undesignated portion of the unit. As with the other Partial Wilderness Alternative, the vehicular ways in Sawtooth and Hell'n Maria Canyons would remain open and would continue to be used as access to the popular hiking areas. Under this alternative, portions of existing hiking trails would also remain open to vehicular use, which could result in conflicts with primitive use. There are no existing ways in the area that would be designated under this alternative.

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Mineral-related exploration and development are possible on 415 acres under this alternative. If roads for development of valid mining claims could not be denied in the area that would be designated, the quality of primitive recreational opportunities would be reduced even in that area. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, roads and ways created for mineral and energy exploration and development would improve access into the area of nonprimitive recreation.

### WILDERNESS VALUES

Wilderness designation of 9,000 acres would contribute to the preservation of the area's wilderness characteristics. In the area that would be designated, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the area to future mineral leasing and location.

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 9,000 acres that would be designated wilderness. Size, naturalness (all 9,000 acres appear natural), outstanding opportunities for solitude (all 9,000 acres meet the standard) and primitive and unconfined recreation (all 9,000 acres meet the standard), and the WSA's special features (including Notch Peak and bristlecone pine) would be protected. Although recreational use would increase (refer to the Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected from increased recreation. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration activities on up to 50 acres within the designated portion.

In the 42,130-acre area that would not be designated, there would be up to 365 acres of disturbance from mineral and energy exploration and development activities. The wilderness values that could be degraded in this portion of the area include naturalness in the entire area and outstanding opportunities for solitude and primitive

recreation on 19,130 acres. Additionally, sights, sounds, and emissions of activities within and adjacent to the 42,130-acre area that would not be designated could result in loss of solitude and primitive recreational values in the designated area. Long-term impairment of wilderness values in the portion that would not be designated could occur.

In summary, mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive, unconfined recreation on the affected areas and could reduce these values in the WSA as a whole until the disturbed areas are satisfactorily reclaimed. However, because the potential for disturbance would be reduced in the designated area and because mitigation would be imposed to protect wilderness values in the designated portion, loss of these values in the WSA as a whole would be less likely than under the No Action Alternative.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 8) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low to moderate (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the designated portion (9,000 acres). Precluding exploration and development of minerals in this area would not alter existing economic conditions, but could slightly alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because much of the WSA's mineral values would be in the non-designated portion and could be developed, potential mineral-related local income would not be significantly reduced by wilderness designation of 9,000 acres.

Livestock use and ranchers' income would continue as at present with $61,440 of livestock sales and $15,360 of ranchers' return to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide) and would only be significant to commercial outfitters that may begin to use the area.

Motorized recreational use of the WSA is light. The decrease in related local expenditures would be small and insignificant to both the local economy and individual businesses.

The loss of 7,560 acres of existing leases would continue with the No Action Alternative and would cause an eventual loss of up to $22,680 per year of lease fees to the Federal Treasury. There would also be a potential loss of up to $960 annually in Federal revenues from the 320 acres that could be leased without designation.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases.

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# King Top WSA

# KING TOP WSA
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# KING TOP WSA
# (UT-050-070)

## INTRODUCTION

### General Description of the Area

The King Top Wilderness Study Area (WSA) contains approximately 84,770 acres of public land in the southwestern portion of Millard County, Utah. Delta, approximately 50 road miles northeast of the WSA, is the closest community. Elevations within the WSA range from 5,000 feet on the valley floors to over 8,000 feet at the highest points. The bulk of the WSA is desert shrub and pinyon-juniper woodland. Annual temperatures range from -20 degrees Farenheit (F) to 106 degrees F, depending on season and elevation. The area has low precipitation (8 to 12 inches annually) and low relative humidity.

### Specific Issues Identified In Scoping

General issues pertaining to King Top WSA are discussed in Volume I. The following issues and concerns were identified specifically for this WSA through public scoping meetings (USDI, BLM, 1984c):

1. *Comment:* What impact would wilderness designation or nondesignation have on management of the wild horse herds that utilize a large portion of the area?

   *Response:* As discussed in the Livestock and Wild Horses/Burros sections of this document, wilderness designation would generally benefit wild horse herds in the area, although restrictions of activities might adversely affect the ability to manage them.

2. *Comment:* The oil and gas potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be high. This information should be considered in the Draft Environmental Impact Statement (EIS).

   *Response:* At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. However, onsite data from an existing well in the WSA indicates that there is a moderate potential for oil and gas, and the discussion in this EIS is based on the onsite data. Information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

## DESCRIPTION OF THE ALTERNATIVES

### Alternatives Considered and Eliminated from Detailed Study

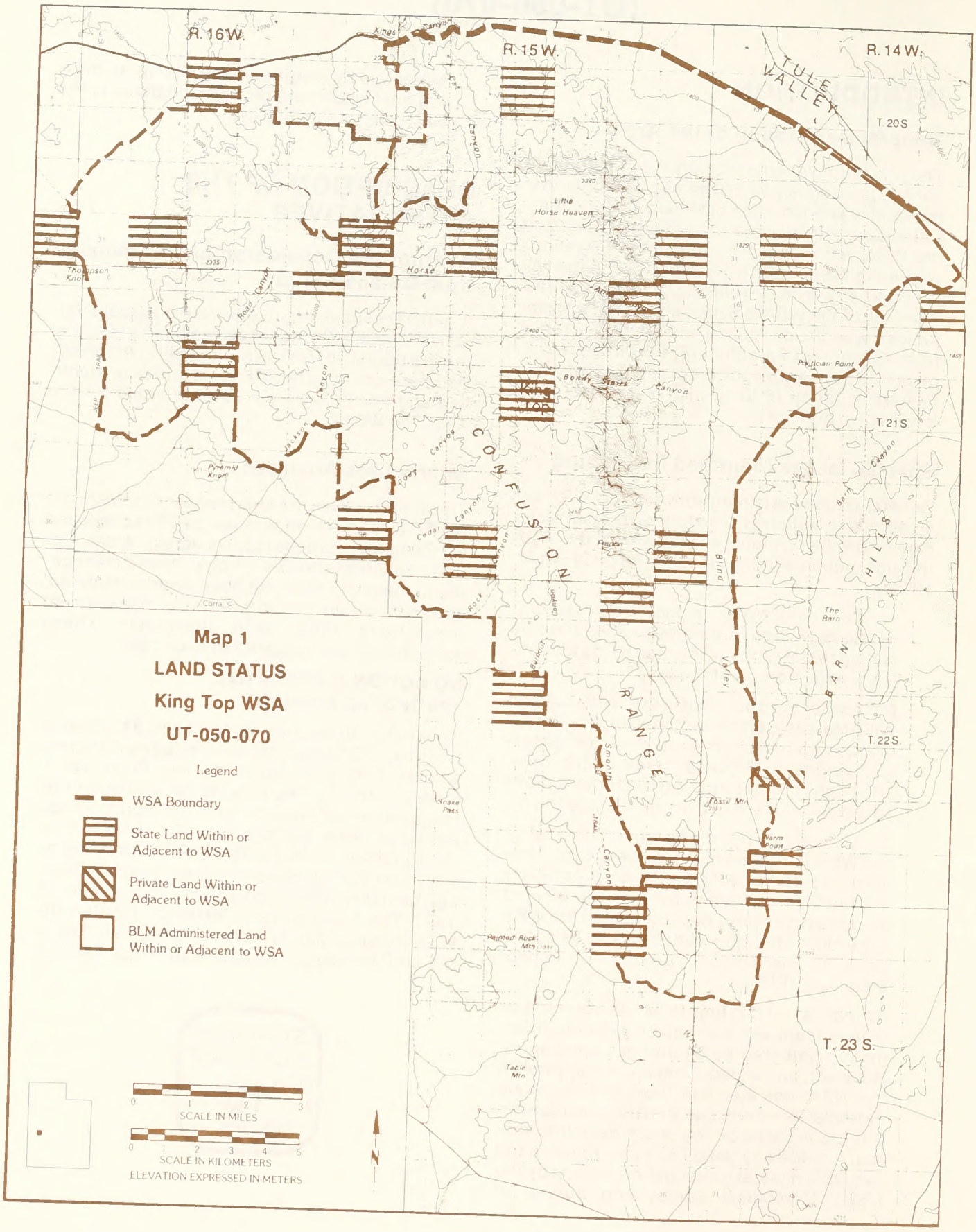
A general suggestion to consider a partial alternative for this WSA was received during scoping. Since a partial alternative is included in the analysis, there are no alternatives specifically identified and eliminated from detailed study for the King Top WSA.

### Alternatives Analyzed

Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (84,770 acres); and (3) Partial Wilderness (53,044 acres). A description of each alternative follows. Where management intentions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

#### NO ACTION ALTERNATIVE (PROPOSED ACTION)

Under this alternative, none of the 84,770-acre King Top WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the House Range Resource Area Management Framework Plan (MFP) (USDI, BLM, 1971b) to be superseded by the Warm Springs Resource Area Resource Management Plan (RMP) scheduled for completion in 1987. The 6,948 acres of State land within the WSA (refer to Map 1) have not been identified in the MFP for special Federal acquisition through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TULE VALLEY
CONFUSION RANGE
BARN HILLS
Little Horse Heaven
Politician Point
Pyramid Knoll
Thompson Knoll
Painted Rock Mtn.
Table Mtn.
Fossil Mtn.
Snake Pass
The Barn
Map 1
LAND STATUS
King Top WSA
UT-050-070
Legend
WSA Boundary
State Land Within or Adjacent to WSA
Private Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N

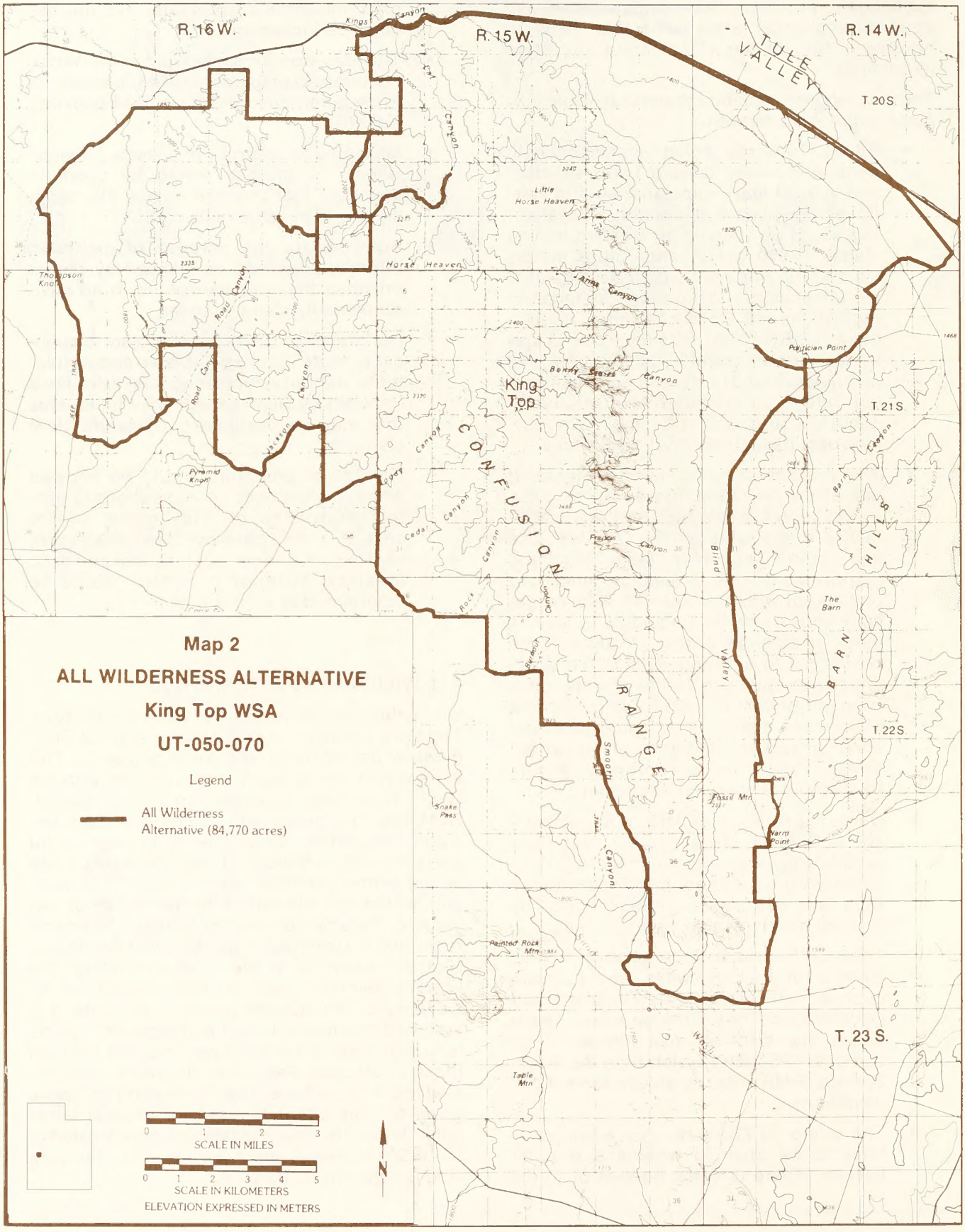
exchange or purchase. State lands are analyzed as remaining under State ownership. Refer to Volume I for further information on State in-holdings.

The following are specific actions that would take place under this alternative:

- All 84,770 acres would remain open to mineral location, leasing (with standard and special lease stipulations), and sale. Development work, extraction, and patenting would be allowed on existing mining claims (4,000 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation regulations (43 Code of Federal Regulations [CFR] 3809). Existing oil and gas leases (approximately 73,890 acres) and new leases could be developed under leasing Category 1 (standard stipulations) on about 82,850 acres and Category 3 (no surface occupancy) on about 1,920 acres.
- The present domestic livestock grazing use of the 84,770-acre area of the WSA would continue as authorized in the MFP (6,906 Animal Unit Months [AUMs]). Use and maintenance of existing rangeland improvements (i.e., 3 miles of fence and one corral) would be allowed. New rangeland improvements (including a well, 4 miles of pipeline, and six troughs to be connected to a spring outside the WSA, one corral, and up to 2 miles of fence and a reservoir or well needed for improvement of livestock distribution), could be developed without consideration of wilderness values if designed in conformance with BLM land use planning documents.
- Developments for wildlife (nine guzzlers are now planned) and other resources would be allowed without concern for wilderness values if in conformance with the BLM land use planning documents. The existing guzzler would be maintained.
- The 84,770 acres, including approximately 30 miles of vehicular ways, would remain open for vehicular use. New access could be developed. The entire area would remain undesignated for off-road vehicle (ORV) use until 1987 after which time the Warm Springs RMP may establish some ORV limitations.
- The entire 84,770-acre area would continue to be open to woodland product harvest. There is some harvest of forest products at the present time, and this use could be increased.
- The area would be managed under Visual Resource Management (VRM) classes yet to be determined in future BLM planning activities.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Hunting would be allowed subject to applicable State and Federal laws and regulations, without vehicular access restrictions imposed by BLM, except ORV limitations that may be designated by future BLM planning.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.

## ALL WILDERNESS ALTERNATIVE

Under this alternative, all 84,770 acres of the King Top WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). The WSA would be managed in accordance with the BLM "Wilderness Management Policy" (USDI, BLM, 1981b) to preserve its wilderness character. Upon designation, acquisition of 13 sections (or parts thereof) of State land (approximately 7,568 acres) within the WSA (refer to Map 1) is likely, and would be authorized by purchase or exchange. (Refer to Volume I for further information regarding State in-holdings.) Seven of eight State sections adjacent to the WSA (including one "cherry-stemmed" section) likely would not be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA; however, one 120-acre tract of private land is adjacent to the WSA.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Map 2
ALL WILDERNESS ALTERNATIVE
King Top WSA
UT-050-070
Legend
All Wilderness Alternative (84,770 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
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The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 84,770 acres would be withdrawn from location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 4,000 acres of 205 existing mining claims that may be determined to be valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with concern for wilderness values. Existing oil and gas leases (involving about 73,890 acres) would be phased out upon expiration unless a find of oil or gas resources in commercial quantities is shown.

- Present domestic livestock grazing for both sheep and cattle would be allowed to continue as authorized in the House Range MFP. The 6,906 AUMs in the WSA would remain available to livestock as presently allotted. After designation, existing rangeland facilities (consisting of 3 miles of fence and one corral) would be used and maintained in the same manner as in the past, based on practical necessity and reasonableness. New rangeland developments would be allowed on a case-by-case basis if necessary for resource protection (rangeland and/or wilderness) and the effective management of these resources provided that wilderness protection standards are met (refer to Appendix 1). It is assumed that the 4 miles of pipeline with six troughs and one corral, now planned in the area, would be consistent with the wilderness protection standards. Additional fencing would also probably be allowable. However, it is unlikely that the proposed well (the feasibility of the well is undetermined) and possibly a future water development (well or reservoir) would be allowable. A herd of about 35 wild horses would be allowed to remain in the WSA.

- New water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed after designation only if they would enhance wilderness values, if needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments other than those for rangeland or wildlife are presently planned.

- Wildlife transplants or habitat developments would be allowed after designation if compatible with wilderness values. Wildlife projects would be considered for approval on a case-by-case basis. One existing wildlife guzzler would be allowed to remain in the WSA and nine additional guzzlers are proposed. Construction plans are not known at this time, but the proposed guzzlers probably could be constructed to meet wilderness protection criteria and probably would be allowable. At this time, no other wildlife projects are planned in this WSA.

- The entire 84,770-acre area would be closed to ORV use except for users with valid existing rights if approved by BLM in accordance with 43 CFR provisions. About 30 miles of existing vehicular ways would not be available for vehicular use except as indicated above. Many of these ways are associated with livestock developments, and use would be allowed on a limited basis by permit for maintenance of the existing facilities. About 12 miles of the WSA's northern boundary parallel U.S. Highway 6/50 and most of the remaining boundary (about 41 miles) follows existing gravel and dirt roads or jeep trails that would remain open to vehicular travel. About 8 miles of existing road, which provide access to and beyond one State section, would be "cherry-stemmed," as well as 1.25 miles of existing road near Politician Point. Both of these "cherry-stemmed" roads would remain open to vehicular traffic.

- A specific Wilderness Management Plan would be developed to govern use and protection of the 84,770-acre wilderness. As part of that plan, it is assumed that is a maintenance-and-use border would be allowed along roads or jeep trails that are "cherry-stemmed" or adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.

- Harvest of forest products would not be allowed except for harvest of pine nuts or

noncommercial gathering of dead-and-down wood if accomplished by other than mechanical means. There is limited harvest of forest products (mostly firewood) at the present time, although the potential exists for increased harvest of pine nuts, firewood, and posts.

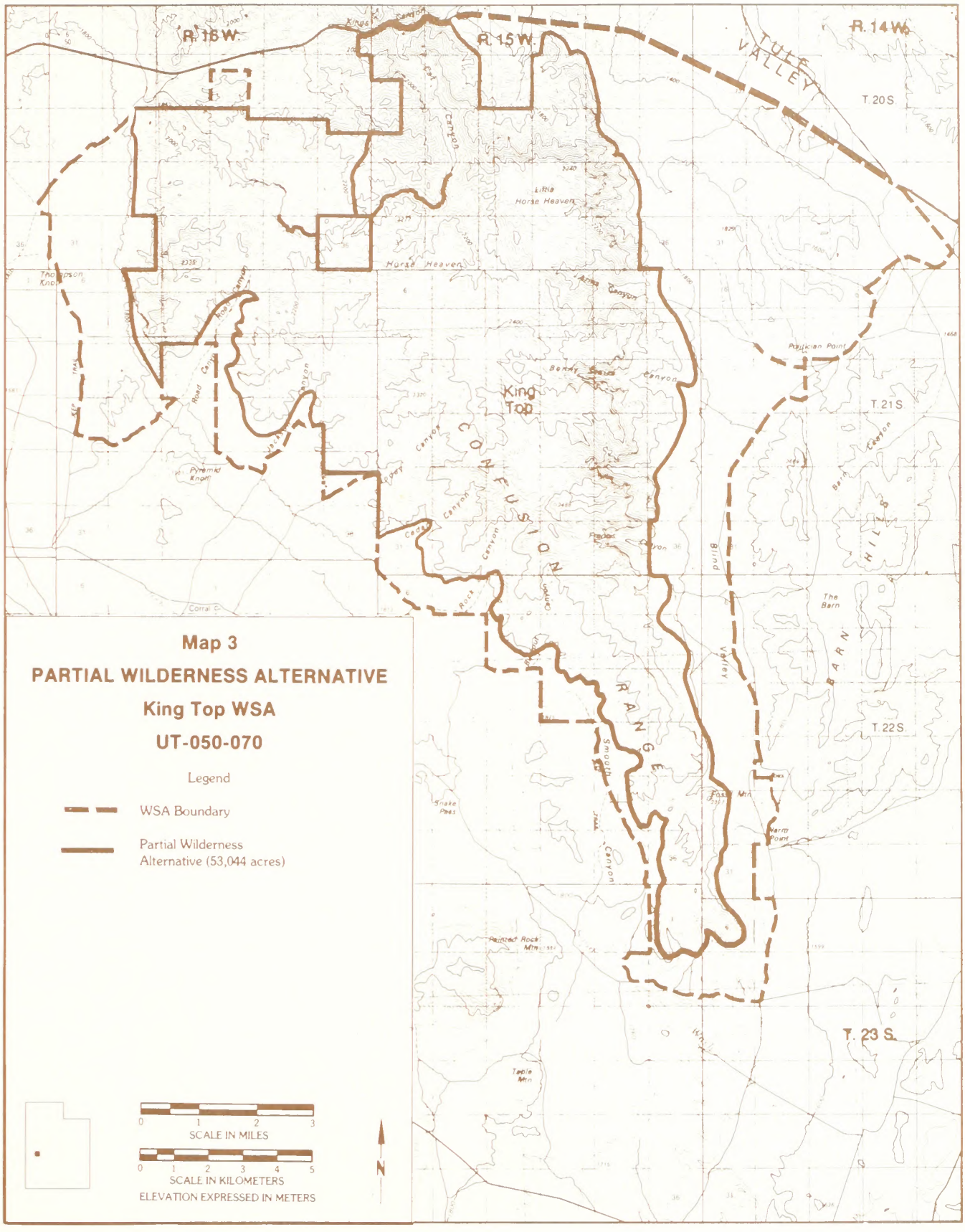
- Visual resources on 84,770 acres would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 84,770-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that firefighting would be limited to hand and aerial techniques.
- Any activity for the purpose of gathering information about natural resources in the 84,770-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other animals or to wilderness visitors. Poison baits or cyanide guns would not be allowed. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

## PARTIAL WILDERNESS ALTERNATIVE

Under this alternative, 53,044 acres of the King Top WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to identify and analyze as wilderness that portion of the WSA that has the most outstanding wilderness characteristics. The 53,044 acres analyzed as wilderness under this alternative include the central, high-elevation portion of the WSA. The 31,726-acre flatland and foothill fringe areas within the WSA but outside of the portion designated as wilderness contain all of the existing and proposed livestock developments and most of the existing ways, and would be managed in accordance with the House Range MFP as described for the No Action Alternative. The 53,044-acre area designated as wilderness would be managed in accordance with the BLM "Wilderness Management Policy" as described in the All Wilderness Alternative. This alternative would likely involve Federal acquisition of seven sections (or parts thereof) of State land (refer to Map 1) by purchase or exchange. (Refer to Volume I for information regarding State in-holdings). Six of eight State sections adjacent to the area designated in this Partial Wilderness Alternative likely would be exchanged. Assumptions regarding impacts to State lands involved in the Partial Wilderness Alternative are the same as described for the All Wilderness Alternative. There would be no private land within or adjacent to the wilderness area described in this alternative. The figures and acreages under this alternative are for Federal lands only.

A summary of specific actions follows.

- The 53,044-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. In the 53,044-acre area development work, extraction, and patenting would be allowed to continue on approximately 1,500 acres of existing mining claims in this area, provided they are valid. The existing oil and gas leases that cover almost the entire area (51,124 acres) would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown. The 31,726-acre area not designated wilderness would be open to future mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (approximately 2,500 acres) and future 31,726-acre area if claims are valid. The area not designated would be managed as oil and gas leasing Category 1 on about 31,086 acres and Category 3 on about 640 acres. Existing leases on approximately 22,766 acres and future leases in this area could be developed without concern for wilderness values.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The Barn
Fossil Mtn
Table Mtn
Map 3
PARTIAL WILDERNESS ALTERNATIVE
King Top WSA
UT-050-070
Legend
WSA Boundary
Partial Wilderness Alternative (53,044 acres)
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SCALE IN MILES
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ELEVATION EXPRESSED IN METERS
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- Domestic livestock grazing would continue to occur in the 53,044-acre wilderness area. The 3,668 AUMs in the 53,044-acre area would remain available to livestock as presently allotted. New rangeland improvements could be developed in the 53,044-acre wilderness if necessary for protection and management of the rangeland and/or wilderness resource as long as wilderness protection standards are met (refer to Appendix 1). Although no developments are currently planned in this part of the WSA, as much as 2 miles of fence and a water development (well or reservoirs) may be necessary in the future. The water developments probably could not be constructed to meet wilderness protection standards (refer to Appendix 1) and probably would not be allowed. In the 31,726-acre nonwilderness area, grazing use would continue as authorized in the MFP. Existing rangeland developments (all are in this area) could be used and maintained, and new ones could be developed without concern for wilderness values. About 35 wild horses would be allowed to remain within the WSA. Their use would occur in both the designated and nondesignated portions of the WSA.
- In the 53,044-acre wilderness, new water resource facilities or watershed activities (other than livestock or wildlife developments) would be allowed only if compatible with wilderness, if needed to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 31,726-acre area water resource facility developments would be allowed if in accordance with the MFP without concern for wilderness values. None are now proposed, except for livestock and wildlife developments.
- In the 53,044-acre wilderness, wildlife transplants or habitat developments would be allowed if compatible with wilderness values. In the remaining 31,726-acre area, wildlife transplants or improvements would be allowed without concern for wilderness values. None are now existing or proposed.
- The high country that would comprise the 53,044-acre wilderness would be closed to ORV use. About 2 miles of existing ways would not be available for vehicular use except in situations described under the All Wilderness Alternative. The remainder of the unit, including the existing highway and gravel roads or jeep trails that border the WSA (including the road near Politician Point that would be "cherry-stemmed"), would remain open to vehicular travel. The "cherry-stemmed" 8 miles of road to a State section would be allowed to remain open to vehicular traffic. About 28 miles of existing vehicular ways would be in the nondesignated portion of the unit and would remain open to vehicular access. New roads could also be allowed in the 31,726-acre area.
- A specific Wilderness Management Plan would be developed that would govern use and protection of the 53,044-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads or jeep trails adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products in the 53,044-acre wilderness area would not be allowed except for harvest of pine nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. The remaining 31,726 acres would be open to woodland harvest.
- Visual resources on the area designated as wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 31,726 acres would be managed under VRM classes yet to be determined in future BLM planning activities.
- Within the 53,044-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. It is assumed that only hand or aerial firefighting methods would be allowed. In the 31,726-acre nonwilderness area, measures of control would be taken without wilderness considerations.

- In the nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 53,044-acre wilderness, such activity (also by permit) would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Hunting would be allowed in the nondesignated portion subject to applicable State and Federal laws and regulations. In the 53,044-acre wilderness, the same laws and regulations would apply, but use would be limited to nonmotorized means.
- In the 31,726-acre area, control of predators would be allowed without wilderness consideration to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the 53,044-acre wilderness, limited control of predators would be allowed to protect special wildlife species and livestock, but poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences resulting from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to present a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section briefly describes the affected environment. Unless otherwise indicated, information for this section is from the House Range Unit Resource Analysis (USDI, BLM, 1971a) and other BLM technical reports and documents.

### Air Quality

The King Top WSA is in a Prevention of Significant Deterioration (PSD) Class II area under the provisions of the Clean Air Act as amended. Air quality is generally excellent with unimpaired visibility. The WSA is located in the Great Basin near the center of the area with the highest visual range (over 70 miles) in the United States (Environmental Protection Agency, 1979).

### Geology

The King Top WSA is located in the Basin and Range Physiographic Province. The topography of this WSA is typical of Basin and Range relief, with mountain ranges rising sharply above surrounding valleys and trending north-south. Elevations range from 5,000 feet to over 8,000 feet. This Basin and Range faulting was preceded by many millions of years of complex geologic events including subsidence, deposition, uplifting, and volcanism.

### Soils

Soils within the WSA vary from dark-colored, moderately deep loams on the mountains to the shallow, cobbly, light-brown soils of the alluvial fans. There are no significant erosion problems in the WSA. Table 2 summarizes soil erosion conditions for the entire WSA. Erosion conditions were determined using soil surface factors (refer to Glossary).

**TABLE 2**
**Erosion Condition**

| Classification | Annual Soil Loss per Acre (cubic yard/acre) | Acres | Percent of WSA | Total Annual Soil Loss for WSA (cubic yard) |
|---|---|---|---|---|
| Severe | 5.4 | 0 | 0.0 | 0 |
| Critical | 2.7 | 0 | 0.0 | 0 |
| Moderate | 1.3 | 2,000 | 2.4 | 2,600 |
| Slight | 0.6 | 82,770 | 97.6 | 49,662 |
| Stable | 0.3 | 0 | 0.0 | 0 |
| Total | | 84,770 | 100.0 | 52,262 |

Sources: USDI, BLM, 1971a; Leifeste, 1978.

### Vegetation

The WSA contains four major vegetation types, as shown in Table 3. The predominant vegetation types are desert shrub and pinyon-juniper. Small areas of Douglas fir are scattered among the pinyon-juniper on the King Top Plateau.

There are no threatened or endangered plant species known to occur in the WSA; however, no surveys have been conducted. Two sensitive plant species, *Eriogonum amophilium* and *Astragalus callithrix*, are found in the southeast portion of the WSA. There is no riparian vegetation in the WSA.

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## KING TOP WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action (Proposed Action) | All Wilderness (84,770 Acres) | Partial Wilderness Designation (53,044 Acres) |
| Mineral and Energy Resources | Potential recovery could be achieved for up to 3 to 15 million barrels of oil, 18 to 100 billion cubic feet of natural gas, 10 tons of beryllium, 50,000 tons of lead and zinc, and 500 tons of tungsten. Low temperature geothermal energy could also be recovered. The probability of development is low with the exception of oil and gas. The area appears to have potential for oil and gas development. | Geothermal energy likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. The opportunity to recover oil and gas could also be foregone. | Up to 1 to 6 million barrels of oil, 7 to 38 billion cubic feet of natural gas, 4 tons of beryllium, 18,713 tons of lead and zinc, and 187 tons of tungsten could be recovered. The likelihood of recovery of locatable minerals is low, but the area appears favorable for the recovery of oil and gas. |
| Wildlife | Less than 1 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. Less than 1 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat. |
| Livestock | Grazing of 6,906 AUMs and maintenance of existing developments would continue. Proposed new developments, consisting of one well, six troughs, one corral, one reservoir, 4 miles of pipeline, and 2 miles of fence, could be constructed. | Grazing of 6,906 AUMs and maintenance of existing developments would continue. Restrictions on ORV use would significantly affect grazing management. Proposed new developments might not be allowed. | Grazing of 6,906 AUMs and maintenance of existing developments would continue. Effects on grazing management would be significantly less, as all but 2 miles of ORV ways would be open. The proposed new developments would be in the nondesignated portion and could be allowed. |
| Visual Resources | The quality of visual resources could be impaired on up to 266 acres. | Visual quality could be impaired on up to 100 acres. | Visual quality could be impaired on up to 160 acres, including 64 acres in the designated portion. All of the Class A scenery would be in the designated portion and would be protected by the reduced potential for disturbance. |
| Recreation | ORV use would continue on 30 miles of ways at current low levels. Overall recreational use could increase from the present 300 visitor days per year to 447 over the next 20 years. Up to 266 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 30 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV use could continue on 28 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## KING TOP WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action (Proposed Action) | All Wilderness (84,770 Acres) | Partial Wilderness Designation (53,044 Acres) |
| Wilderness Values | Wilderness values could be lost on up to 266 acres (0.3 percent of the WSA), but the values in the rest of the WSA would not be affected. | Wilderness values would be protected, except on up to 100 acres (0.1 percent of the WSA) which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 64 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on 0.1 percent of the 31,726 acres not designated. Overall, wilderness values could be lost on 0.2 percent of the WSA. However, 63 percent of the area meeting the standards for naturalness, 92 percent of the area meeting the standards for outstanding opportunities for solitude, and all of the area meeting the standards for primitive recreation would be in the designated area and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan,* State of Utah plans and policies, and the BLM House Range MFP. | This alternative would not be consistent with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM House Range MFP. | The effects of partial designation would be the same as the All Wilderness Alternative, except that the portion not designated would be consistent with Millard County's plans. |
| Socio-economics | Annual local sales of less than $163,200 and Federal revenues of up to $231,338 would continue. An additional $32,640 per year in Federal revenues could be derived from leasing of presently unleased areas. | Annual local sales of less than $163,200 and Federal revenues of up to $9,668 would continue, but Federal revenues of up to $254,310 from mineral leasing would be foregone. The opportunity for future energy and mineral development and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $159,132. |

**TABLE 3**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Pinyon-juniper-wheatgrass | 32,121 | 38 |
| Wheatgrass | 8,477 | 10 |
| Shadscale-horsebrush-cheatgrass | 43,233 | 51 |
| Alkali Playa | 848 | 1 |

Sources: Foster, 1968; USDI, BLM, 1971a.

The King Top WSA lies in the Intermountain Sagebrush Province Ecoregion as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are listed on Table 4. PNV is the vegetation that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

**TABLE 4**
**Potential Natural Vegetation Types**

| PNV Type | Acres | Percent of WSA |
|---|---|---|
| Juniper-pinyon woodland | 33,908 | 40 |
| Spruce, fir, Douglas fir | 50,862 | 60 |

Source: USDI, Geological Survey, 1978.

## Water Resources

There are no springs or live water within the WSA, and no known aquifers. A water well, on a State section in the middle of the WSA, was drilled to a depth of 1,700 feet without producing water.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

The potential for mineral resources in this WSA is low to moderate due to a marginally favorable geologic environment. An overall importance rating (OIR) of 2 was assigned to the King Top WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA. All mineral resources within the area were assigned favorabilities of f2 or less. The energy and mineral resource rating summary is given in Table 5.

**TABLE 5**
**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas[3] | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f1 | c1 | Little or none |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c1 | Low temperature resource |
| Hydroelectric | f1 | c4 | None |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/zinc | f2 | c1 | Less than 50,000 tons |
| Tungsen | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1]Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).
[2]Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).
[3]Even through SAI rates the oil and gas potential as low, it is reported as moderate in this EIS based on onsite exploration data. Moderate potential indicates 10 to 50 million barrels of oil and 60 to 300 billion cubic feet of natural gas.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent mineral investigation report. Reports will be made available to the public and will be submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider these reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are

not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, and tungsten that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

**Leasable Minerals**

*Oil and Gas*

Approximately 73,890 acres of the WSA are under oil and gas lease with lease application on the remaining acreage. Approximately 50 percent (36,945 acres) of the leases are pre-FLPMA and 50 percent are post-FLPMA. Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981b). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

Oil and gas categories within the WSA are Category 1, 82,850 acres, and Category 3, 1,920 acres.

Industry evaluation indicates there is a high favorability for the occurrence of oil and gas in the WSA. SAI (1982) rates the oil and gas potential of the WSA as f2 (low) (refer to Table 5). However, onsite data from an exploratory well in the WSA indicate that there are favorable geologic structure oil and gas shows, permeability, etc., and oil and gas in the WSA warrants further exploration. To date, no producible quantities of petroleum have been discovered here but this does not preclude or decrease the potential for petroleum occurrence. Therefore, based on onsite data, BLM believes the oil and gas potential of the area to be moderate. SAI (1982) reports that moderate potential indicates that there could be between 10 and 50 million barrels of oil and 60 to 300 billion cubic feet of natural gas in-place with 3 to 15 million barrels of oil and 18 to 300 billion cubic feet of natural gas recoverable. (Appendix 6 provides recoverability estimates.)

*Geothermal*

The area has slight potential for a low gradient geothermal resource, but there is no market for this resource.

**LOCATABLE MINERALS**

About 205 mining claims are in the extreme southern portion of the WSA and cover an area of approximately 4,000 acres. The favorability for occurrence of uranium has been rated low by industry and little to none by SAI (1982). Other locatable minerals have a low favorability of occurrence due to the geologic characteristics of the area (refer to Table 5). The WSA lies near beryllium, tungsten, and lead/zinc producing regions, but generally lacks surface volcanic source rocks for these metals. They may be present at depths. Table 5 identifies estimates of potential quantities within the WSA.

**SALABLE MINERALS**

Salable minerals (sand, gravel, limestone, etc.) are present in the WSA, but there is no interest due to the abundance of other more easily accessible sources.

## Wildlife

There are approximately 50 species of mammals, 106 species of birds, 14 species of reptiles, and one amphibian species that could inhabit the WSA at different times of the year. Although a great diversity exists, no one species could be described as abundant. All of the WSA is considered deer habitat, 8,245 acres are antelope habitat, and 3,155 acres are chukar habitat. The WSA currently supports about 20 deer during the winter and 20 antelope on a yearly basis.

There are two endangered (bald eagle and peregrine falcon) and one sensitive (golden eagle) species inhabiting the WSA. Although there is no Federally designated critical habitat in the WSA, the area is considered crucial yearlong habitat for golden eagles.

Approximately 65,200 acres in the WSA are managed under the West Desert Habitat Management Plan (USDI, BLM, 1980b). This plan calls for the

future construction of nine wildlife guzzlers within the WSA boundary. One wildlife guzzler already exists within the WSA. There are no existing or proposed vegetation manipulation projects nor is there potential for vegetation manipulation in the WSA.

There are several wildlife vegetation study sites within the WSA. Access to these is by vehicular use of existing ways.

## Forest Resources

There are approximately 14,760 acres of dense pinyon-juniper woodland within the WSA. Approximately 9,260 acres (63 percent) of the forested area have slopes in excess of 40 percent and are considered unsuitable for forest product harvest. Additional access roads would be needed to harvest the forest products on the 5,500 acres considered suitable. Available woodland products are estimated as follows: 48,650 cords of firewood, 4,070 fenceposts, and 20,000 lbs. (annually) of pine nuts. Past utilization of these resources is estimated to be only approximately 50 cords of firewood per year. No commercial harvests have been made in the WSA.

## Livestock and Wild Horses/Burros

Within the WSA, there are approximately 6,906 AUMs allocated for use by nine permittees on portions of five sheep and two cattle allotments (refer to Table 6). Existing range improvements consist of 3 miles of fenceline and one corral. Proposed range developments include one well and approximately 4 miles of pipeline with about six troughs and one corral. Also needed in the Breck's Knoll Allotment are about 2 miles of fencing and a well or reservoir. These facilities would improve livestock distribution. There are approximately 30 miles of existing ways that extend into the WSA from border roads that are used by permittees and BLM in supervision of livestock operations and maintenance of existing studies. The use of the area is dependent on the permittees hauling water and obtaining access for sheep camps. No potential exists for increasing AUMs by mechanical treatment of existing vegetation within the WSA.

There are presently approximately 45 wild horses using the WSA. Most of this use occurs in the south-central portion. Management plans call for maintaining a herd of approximately 35 animals. Excess numbers will be trapped and removed

**TABLE 6**
**Livestock Grazing Use Data**

| | Allotment | | | | | | |
|---|---|---|---|---|---|---|---|
| | King (Sheep) | Blackham Canyon (Sheep) | Blind Valley (Sheep) | Painted Potholes (Sheep) | Conger Spring (Sheep) | Boob Canyon (Cattle) | Brecks Knoll Cattle) |
| Permittees | 1 | 1 | 2 | 1 | 1 | 1 | 2 |
| Period of Use | 11/1-4/30 | 11/1-4/30 | 11/1-4/30 | 11/1-4/30 | 11/1-4/30 | 11/1-5/31 | 11/1-5/15 |
| Percent of Allotment Area in WSA | 38 | 59 | 40 | 18 | 5 | 37 | 22 |
| Estimated Available Livestock Forage in WSA | 1,229 | 1,467 | 1,242 | 439 | 171 | 920 | 1,438 |
| Percent of Allotment Total in WSA | 42 | 68 | 59 | 19 | 4 | 35 | 23 |

Source: USDI, BLM, 1971a.

from this general area. Trapping facilities would be located outside the WSA. Existing vehicular ways are used for access to observe and manage the horse herd.

## Visual Resources

Much of the west and north slopes of the King Top Mountain are comprised of sheer tan and gray cliffs. Above the cliffs is the King Top plateau. Covered with dark-green patches of pinyon-juniper and Douglas fir, the plateau comprises the largest portion of the WSA. The east and west slopes of the WSA consist of light-tan rolling hills dotted with juniper trees and low tan shrubs. Some 63 percent (53,044 acres) of the range contains moderately high (Class B) scenic values due primarily to naturalness, variety in color, and shape of landform. The remaining 37 percent (31,726 acres) of the WSA has low (Class C) scenic values due to the low rolling foothills, flat valley bottoms with limited vegetation, and color variations. The area encompassing the WSA has not yet been evaluated to determine the VRM class. (Appendix 7 explains the BLM's VRM rating system.)

## Cultural Resources

Little archaeological survey work has been completed in the WSA. Only three sites have been recorded, and these were discovered in connection with other activities (i.e., MX and oil/gas exploration). The three sites are two small lithic sites and one small rock shelter. The potential for the existence of additional sites is relatively high because the entire West Desert area was used by wandering groups of Archaic, Fremont, and Paiute-Shoshone people for several thousand years.

Historically, the only significant use of the area was the mining activity in the Barn Hills to the east and the village of Ibex on the east boundary of the WSA.

There are no sites within the WSA listed or potentially eligible for listing on the National Register of Historic Places.

## Recreation

Present recreational use in the WSA is estimated to be approximately 300 visitor days annually for all activities. The most popular recreational activities include fossil collecting, deer and chukar hunting, geological, botanical and zoological sightseeing (wild horses), and hiking associated with these activities. Vehicular use is usually associated with other recreational uses such as hunting, and the 30 miles of existing ways are used for access. Overall, approximately 188 visitor days annually can be attributed to primitive recreation and 112 to activities based on vehicle access into the WSA.

Fifteen recreational opportunities were evaluated for their quality in the WSA. Fourteen opportunities were present in varying degrees. Only one activity, fossil collecting, was rated excellent in quality. (This rating applies only to the Fossil Mountain area, which comprises about 2 percent of the WSA.) Three activities (backpacking, day-hiking, and geological sightseeing) are average in quality due to the large size of the WSA, numerous canyons, and geologic features. The remaining activities are lower than average or poor in quality due to lack of water, poor access, and lack of destination points.

## Wilderness Values

### SIZE

This WSA contains approximately 84,770 acres of public land. It is the largest WSA in the West Desert. The WSA is approximately 17 miles wide (east to west) by 19 miles long at its widest and longest points.

### NATURALNESS

Evidences of man include approximately 30 miles of ways that penetrate the WSA from boundary roads. These are judged to be substantially unnoticeable. A road approximately 8 miles long within the WSA provides access to a State section. This is a post-FLPMA road and was not considered in assessing the naturalness of the WSA. This road is being rehabilitated at this time to a substantially unnoticeable condition. Another road that connects U.S. Highway 6/50 with a microwave station in the northern portion of the WSA was excluded from the WSA during the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980a). Overall, the WSA meets the naturalness criteria of the *Wilderness Act*.

### SOLITUDE

The opportunities for finding solitude away from the sights and sounds of others meet the standards of the *Wilderness Act* in 59 percent or about 50,000 acres of the WSA. However, approximately 41 percent (34,770 acres) is relatively flat and vegetated only with low-growing plants. In this portion the opportunities for finding solitude

are not outstanding. The portions offering outstanding solitude are generally the more mountainous and heavily vegetated central areas of the WSA.

The King Top WSA is within the south range of the U.S. Air Force's Utah Test and Training Range. The south range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains, and east to west from the Sheeprock Mountains to 17 miles within Nevada. This is one of the nation's busiest military air spaces. There are 15,000 aircraft, including all types of tactical fighters and bombers, in the area. There are 100 to 150 aircraft flying over the area per day 6 days per week (conservative estimate). Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range (Davies, 1985). The King Top WSA is in the southern portion of the range and is less affected by air traffic. However, aircraft occasionally fly directly over the WSA and these overflights can be a source of annoyance to visitors seeking solitude. Military overflights present occasional offsite intrusions (sight and sound) that detract from, but generally do not eliminate, the overall opportunities for solitude in the WSA.

### PRIMITIVE AND UNCONFINED RECREATION

Primitive recreational activities available include hiking/backpacking, horseback riding, hunting, wildlife observation, and fossil collecting. The lack of water generally diminishes the quality of some of these activities. As discussed in the Recreation section, the overall quality of the recreational activities present is less than outstanding. The only exception is fossil collecting at Fossil Mountain, where about 1,920 acres have been identified as an outstanding fossil-collecting area. This is one of the world's most important collection areas for lower Ordovician fossils.

### SPECIAL FEATURES

The special features in the WSA include the wild horse herds and Fossil Mountain, where some of the best examples of lower Ordovician fossils are found. It is often visited by university groups and amateur collectors, and is of scientific and educational value.

## Land Use Plans and Controls

There are no private in-holdings, private subsurface rights, or rights-of-way within the WSA. There are 13 State sections within the boundaries of this WSA. All of these State lands have oil and gas and grazing leases. Seven of the State sections have metalliferous leases. There are also 11 State sections adjacent to the WSA boundaries that are leased for grazing and oil and gas. Seven of these adjacent State sections have been also leased for metalliferous minerals.

The *Millard County Master Plan* (Paul Nelson Associates, Inc., 1981) does not specifically address wilderness, but the County believes that Federal and State lands should be utilized to their greatest economic potential under a multiple-use concept.

Public lands in the WSA are managed under the BLM House Range MFP which allows multiple use as described for the No Action Alternative. This plan will be replaced by the Warm Springs RMP scheduled for completion in 1987.

## Socioeconomics

### DEMOGRAPHICS

The King Top WSA is located in Millard County, Utah. The closest community is Delta, about 50 miles northeast of the WSA. Delta is a main gateway and service area for visitors to the west. Census figures for 1980 show the Millard County population at 8,970 (an increase of 28.4 percent since 1970). Major portions of the Millard County population live in Delta (1,930) and Fillmore (2,083). The construction of the Intermountain Power Project (IPP) will add significantly to the population of Millard County.

### EMPLOYMENT

The government sector (Federal, State, and local) is the most important, in terms of employment in Millard County economy. Table 7 presents 1982 nonfarm employment figures for Millard County.

### INCOME AND REVENUES

Income and earnings for Millard County are summarized on Table 8. Income is about proportionate to employment. The construction of IPP is also having and will continue to have a significant impact on employment and income in Millard County.

Economic-related activities in the WSA include mineral exploration, livestock production, woodland production, and recreation. Table 9 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 7**
**1982 Nonfarm Employment**
**Millard County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transportation, Communication, and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance, and Real Estate | 73 | 3.3 |
| Services | 167 | 7.6 |
| Government[1] | 739 | 33.7 |
| Total | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.

[1]Total Federal, State and local.

**TABLE 8**
**1982 Personal Income and Earnings**
**Millard County, Utah**

| Type/Source | Earnings Income (in $1,000) | Growth Rate 1977-82 (Percent) |
|---|---|---|
| Total Labor and Proprietor's Income (Earnings) | 40,602 | 82.7 |
| Total Labor and Proprietors' Income by Industry Source | | |
| Farm | 5,717 | 19.0 |
| Nonfarm | 34,885 | 105.0 |
| Private | 25,315 | 110.8 |
| Agriculture Service and Other | 609 | -6.9 |
| Mining | 3,192 | 236.4 |
| Construction | 5,889 | 668.7 |
| Manufacturing | 2,454 | 69.0 |
| Transportation and Public Utilities | 3,802 | 69.8 |
| Wholesale Trade | 1,531 | 40.9 |
| Retail Trade | 4,165 | 54.2 |
| Finance, Insurance, and Real Estate | 1,368 | 123.6 |
| Services | 2,305 | 48.6 |
| Government | 9,570 | 91.0 |

Source: U.S. Department of Commerce, Bureau of Economic Analysis, 1984.

**TABLE 9**
**Local Sales And Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $221,670.00 |
| Mining Claim Assessment | Less than $20,500 | None |
| Livestock Grazing | $138,120 | $9,668.40 |
| Woodland Products | $3,750 | None (No commercial permits) |
| Recreational Use | Less than $1,230 | None (No commercial permits) |
| Total | Less than $163,300 | Up to $231,338.40 |

Sources: BLM File Data; Appendix 9.

[1]Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

The WSA has 205 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all of the claims are current in assessment.

No oil and gas or mineral production has occurred in the WSA. Therefore, mineral and energy resource production from the WSA has not contributed to local employment or income.

Nine livestock operators have a total grazing privilege of 6,906 AUMs within the WSA. If all this forage were utilized, it would account for $138,120 of livestock sales and $34,530 of ranchers' returns to labor and investment.

It is estimated that about 50 cords of firewood have been harvested annually from the WSA for private use. The sales value of the wood is about $3,750. The harvests are small and are insignificant to the local economy and only of minor significance to those involved in the harvest.

The WSA's recreational use and related local expenditures are low and are insignificant to both the local economy and individual businesses. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for the King Top WSA is estimated as about 300 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Millard County.

The WSA generates Federal revenues from mineral leases and livestock sources (refer to Table 9).

Oil and gas leases in the WSA cover approximately 73,890 acres. At $3 per acre, lease rental fees generate up to $221,670 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, Federal revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA can use up to 6,906 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $9,668.40 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

No commercial permits for woodland harvest or recreation have been issued for the WSA; therefore, no Federal revenue is generated from these resources.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative (Proposed Action)

The major changes that could occur in the area would be related to potential for oil and gas, geothermal, and locatable mineral development. The area would be open to resource use and development without controls for wilderness protection. The degree of future development is unknown, but would probably be low due to the WSA's rough terrain and low resource potential. The following is a worst-case analysis, based on the assumption that minerals would be developed sometime in the future and would result in the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; beryllium, 50 acres; lead/zinc/tungsten, 50 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area. Operation of IPP could result in degradation of air quality up to the Class II limitation. Depending on meteorological conditions, a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979). Disturbance of as much as 266 acres would result in only minor temporary increases in fugitive dust emissions.

### GEOLOGY

No impacts to geology are expected because disturbances associated with locatable minerals (i.e., beryllium, lead, zinc, and tungsten), oil and gas, and geothermal exploration and development activities would involve only the surface or widely spaced wells and would probably not exceed 266 acres. This would not change the area's geologic structure.

## SOILS

It is estimated that up to 266 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur in areas with moderate erosion class (worst-case analysis) and that erosion condition would increase one class, soil loss on the 266 acres would increase from 346 cubic yards/year to 718 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 372 cubic yards (0.7 percent) over current annual soil loss to approximately 52,634 cubic yards per year. This is a small increase and the effects would likely be imperceptible.

## VEGETATION

Although protective measures would be taken to avoid disturbance of the sensitive plant species *Eriogonum amophilium* and *Astragalus callithrix*, some individual plants could be inadvertently lost as a result of mineral exploration and development. Before authorizing surface-disturbing activities (266 acres potential), BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the Fish and Wildlife Service (FWS) as required by BLM policy (refer to Appendix 4). If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these plants, it can be reasonably concluded that the viability of populations of threatened, endangered, or sensitive plant species would be preserved under the No Action Alternative.

The maximum anticipated disturbance would be no more than 266 acres. This would not result in a major change in any vegetation type.

## WATER RESOURCES

Since precipitation is low and all streams are ephemeral within the WSA, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 372 cubic yard increase in annual soil loss due to surface disturbance. Opportunities for maintenance or additional improvements could occur. A well and 4 miles of pipeline, including six troughs, are proposed for livestock, and nine guzzlers are proposed for wildlife in the current MFP for the area. An additional well or reservoir is also needed to improve livestock distribution.

Mineral exploration and development in the area would be generally confined at or near the surface or with widely spaced wells, and would not significantly change ground water quantity or quality.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

The potential for 10 to 50 million barrels of oil in-place (3 to 15 million barrels estimated recoverable) and 60 to 300 billion cubic feet of natural gas (18 to 100 billion cubic feet estimated recoverable) exists within the WSA. These oil and gas resources could be explored and developed, subject to Category 1 stipulations, on 82,850 acres. Exploration and development would be highly restricted on the approximately 1,920 acres that would be managed as Category 3. As much as 160 acres of surface disturbance could take place if exploration and development were to occur on the acreage available. The area appears to have geologic potential for oil or gas development. The likelihood of production is unknown.

The low gradient geothermal resource could be recovered under this alternative. As much as 6 acres could be disturbed from exploration and development. However, because there is no market and only slight potential for this resource in the area, it is unlikely that it would be developed.

### Locatable Minerals

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. The potential deposit of up to 10 tons of beryllium, up to 50,000 tons of lead/zinc, and up to 500 tons of tungsten could be developed. Approximately 100 acres could be disturbed due to exploration and development of these locatable mineral resources. However, the liklihood of development is thought to be minimal because of economic considerations (i.e., transportation, low potential, etc.).

### Salable Minerals

Although the opportunity would exist under this alternative to recover limestone, sand, and gravel deposits, it is unlikely they would ever be developed commercially due to the remoteness of the area and the multitude of deposits outside the WSA.

## WILDLIFE

Under this alternative, the existing wildlife guzzler would continue to be maintained. The nine proposed wildlife guzzlers would be allowed without

consideration of wilderness values. These would increase the availability of water for wildlife use. Vehicular access to the vegetation study plots in the WSA would be maintained, and they could be monitored. Although none are currently planned, other developments benefiting wildlife would be allowable without wilderness considerations. However, disturbance of an estimated 266 acres (0.3 percent of the WSA) through mineral and energy development and exploration would disrupt wildlife in the disturbed areas. Mobile animals would leave the disturbed areas for the lifetime of these activities. Less mobile wildlife would either perish or coexist with these disturbances at smaller and less viable population levels. Overall, wildlife would probably not be greatly affected by disturbance of less than 1 percent of the WSA.

Peregrine falcon and bald eagle (both endangered) and golden eagle (sensitive) would also avoid the disturbed areas. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy. If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because appropriate measures to protect these birds would be implemented, it can be reasonably concluded that the viability of populations of threatened, endangered, or sensitive species would be preserved. Disturbance would result in loss of as much as 266 acres of crucial yearlong golden eagle habitat during the life of the activities.

### FOREST RESOURCES

Woodland products could be harvested under this alternative. However, the remoteness of this resource and availability of similar resources closer to population centers would continue to limit utilization. Annual harvest would likely continue at about 50 cords of firewood.

### LIVESTOCK AND WILD HORSES

Domestic livestock grazing use of 6,906 AUMs would continue as authorized for nine permittees in the House Range MFP. There would be no changes in or effect on the current livestock use and management under this alternative. The existing fences and corral could be used and maintained, and 30 miles of existing vehicular ways could be used for livestock management without concern for wilderness values. Proposed rangeland developments, including a well, pipeline, and corral, could be developed.

A herd of approximately 35 wild horses would be maintained under this alternative, and existing ways could be used for observation and management.

Additional roads and facilities, including possible reservoirs, wells, and fences for livestock handling, could be proposed and developed in the future without regard for wilderness values, if in conformance with the MFP. No changes in livestock management techniques are expected.

### VISUAL RESOURCES

Under this alternative, 266 acres of mineral-related exploration and development activities are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads are located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole.

### CULTURAL RESOURCES

A worst-case analysis indicates that disturbance of 266 acres by mineral exploration and development under this alternative could destroy cultural sites. Also, under this alternative, range developments including a new reservoir would be likely, which could disturb cultural sites. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would lessen or avoid impacts. There are no National Register sites in the WSA. The overall effect on cultural resources would be low due to the limited amount of cultural resources in the area and to mitigating measures that would be taken prior to surface-disturbing activities. Vandalism of sites (not currently a problem) would be expected to increase with construction of roads for mineral exploration and in proportion to the general population increase.

### RECREATION

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative, mineral-related exploration and development are possible on 266 acres. If roads, vehicular ways, and drill pads are located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, about 30 miles of existing vehicular ways would be available for recreational access.

Also, roads and ways created for energy and mineral exploration and development would improve recreational access into the area for hunting and sightseeing. The Fossil Mountain area would be protected from disturbance related to oil and gas and geothermal exploration and development because the area (1,920 acres) would continue to be managed for leasing as Category 3 (no surface occupancy). Disturbance related to mineral location could, however, occur in the Fossil Mountain area. If the area were developed, conflicts could occur between mineral activities and public use of the area.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 300 current visitor days per year to 447 visitor days at the end of 20 years.

Regional population increases due to construction of IPP near Delta, Utah could lead to increases in recreation greater than the projected baseline rate.

### WILDERNESS VALUES

Under this alternative as much as 266 acres of mineral exploration and development are possible. The related surface disturbance would result in a significant loss of naturalness and outstanding opportunities for solitude and primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads are located throughout the area. With the exception of oil and gas, the potential for mineral development and related disturbance is low in this WSA. Special values related to fossil collecting at Fossil Mountain would be protected from oil and gas and geothermal exploration and development because of continued management of the area as Category 3. However, disturbance related to mineral location could occur. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

This alternative would generally be consistent with the *Millard County Master Plan*, which favors development of the economic potential of public lands under a multiple-use concept. This alternative is based on implementation of the current BLM House Range MFP and the forthcoming Warm Springs RMP and, therefore, would be in conformance with these plans. The No Action Alternative would be consistent with State of Utah plans and policies that emphasize economic return.

### SOCIOECONOMICS

Under this alternative, no changes are expected in existing patterns and trends of population, employment, and local income distributions, even with the notable inclusion of IPP. The Utah Office of the State Planning Coordinator (1980) projects that the government sectors of Millard County should not expand greatly beyond current size, while the retail trade, manufacturing, and services sectors will continue to grow at a stable rate through the year 2,000.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain approximately as at present. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development of minerals within the WSA is low.

There would be no livestock-related economic losses because the existing grazing use (6,906 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce $138,120 annually in livestock sales and $34,530 of ranchers' return to labor and investment.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Recreational use in the area is estimated to increase by only 147 visitor days per year over the next 20 years, and overall recreation-related expenditures average $4.10 per visitor day, for a total increase of $602.70. Since only a portion of this would contribute to the local economy, recreation-related expenditures attributable to the WSA would not be significant to the Millard County economy. Local use of 50 cords of firewood would continue, at a value of approximately $3,750 per year.

Federal and State revenues would not be reduced by this alternative. The current 73,890 acres under oil and gas lease would continue to bring up to $221,670 per year in Federal oil and gas lease fees. There are 10,880 acres in the WSA open to oil and gas leases that are presently

unleased. If leased at up to $3 per acre, they could bring up to $32,640 per year in lease fees in addition to new royalties if oil and gas were discovered. Collection of livestock grazing fees ($9,668.40 per year at $1.40 per AUM) would continue. About 50 percent of these revenues would continue to be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (84,770 Acres)

As noted in the Description of the Alternatives section, the major changes that could occur in the 84,770-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 30 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as cited in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 100 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before a finding of commercial quantities is made, and that oil and gas leases would not be renewed or future leasing of oil and gas or geothermal leases allowed. (Appendix 10 lists surface assumptions and estimates for the WSA.)

Because potentially disturbed areas would be smaller than under the No Action Alternative (100 vs. 266 acres), the impacts from development and surface disturbance on air quality, geology, soils, water, vegetation, and forest resources would be insignificant, as described for the No Action Alternative, and are not discussed below. Wilderness designation would provide additional protection to these resources. Other effects on these resources due to changes in management are analyzed below.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

About 87 percent of the WSA (73,890 acres) is under oil and gas lease, with approximately 50 percent of the leases pre-FLPMA and 50 percent post-FLPMA. The remaining 10,880 acres of the WSA are under lease application.

Existing leases could be developed subject to the stipulations issued at the time of leasing. Post-FLPMA leases could be developed only if development would not impair wilderness suitability, and this is unlikely. It is also unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates.

The worst-case analysis for minerals would occur if oil and gas leases expired and expired leases were not reissued. In that case, exploration for and development of a potential resource of 10 to 50 million barrels of in-place oil and 60 to 300 billion cubic feet of in-place natural gas, with 3 to 15 million barrels of oil and 18 to 100 billion cubic feet of natural gas considered recoverable would be foregone under this alternative. Without further exploration of the area it is not possible to determine exactly how significant the loss of potential oil and gas recovery would be.

The low gradient geothermal resource could not be recovered under this alternative. However, there is no market for the resource in this vicinity, and it is unlikely that it would be produced even without wilderness designation.

#### Locatable Minerals

Approximately 4,000 acres are under mining claim in the southern portion of the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to wilderness values. It is estimated that, if minerals are located prior to wilderness designation, up to 100 acres could be disturbed due to exploration of locatable mineral resources. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case, the potential for recovery of up to 10 tons of beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten would be foregone. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development.

Because production of these metals is not currently occurring and because economic considerations (e.g., transportation, low potential, etc.) are unfavorable, it is unlikely that development would occur even without wilderness designation. Therefore, this alternative would not result in a significant loss of economically recoverable locatable mineral resources.

#### Salable Minerals

Under this alternative the opportunity to recover limestone, sand, and gravel deposits within the WSA would be foregone. However, it is unlikely they would ever be produced commercially, even

without wilderness designation, due to the remoteness of the area and the multitude of deposits outside the WSA.

### WILDLIFE

Under this alternative, the existing guzzler could be maintained and the nine planned wildlife guzzlers constructed as long as they were designed to meet wilderness protection criteria (refer to Appendix 1). It is likely that most, if not all, of the guzzlers would be allowable. However, wilderness considerations would make the construction and maintenance of the guzzlers difficult. The guzzlers, if constructed, would increase the availability of water for wildlife use. Closure of the area to vehicular access would make monitoring of several existing vegetation study plots in the WSA difficult.

This alternative would benefit wildlife, including peregrine falcon, bald eagle (both endangered), and golden eagle, through reduction of potential surface disturbance due to mineral development. However, disturbance of an estimated 100 acres, that could still occur from mineral exploration and development, would cause mobile animals to leave the area of disturbance and less mobile animals to either perish or coexist at smaller and less viable population levels. Appropriate measures would be taken to protect the endangered peregrine falcon and bald eagle prior to any surface-disturbing activity, and it can be assumed that no impact would occur to these species. Disturbance would result in loss (approximately 100 acres) of crucial yearlong golden eagle habitat during the life of the activity. It is unlikely that increased recreational use of the area due to wilderness designation would be large enough to negatively affect these birds.

### FOREST RESOURCES

Under this alternative, no woodland harvest would occur. Currently, there is little demand for commercial forest resources in the King Top Mountain, and only about 50 cords of firewood are taken annually for private use. It is unlikely that the resource would be utilized to a greater extent even without wilderness designation. The opportunity to harvest fenceposts and firewood in the area would be foregone, although pine nuts could be harvested by nonmechanized means.

### LIVESTOCK AND WILD HORSES

This alternative would not affect the level of livestock use (currently 6,906 AUMs) in this WSA. The 3 miles of existing fence and one existing corral would continue to be used and maintained. It is unlikely that the planned well and other future (unplanned) water developments (well or reservoirs) could be constructed to meet wilderness protection criteria, and they would probably not be allowed. Future pipelines, fences, and corrals probably would be allowed. The inability to develop water in the WSA would impede the ability to effectively distribute livestock in the area. Livestock permittees would no longer be allowed to access the 30 miles of vehicular ways for hauling water and salt to sheep camps on a regular basis. Such restrictions would necessitate changes in livestock management and supervision as it is currently practiced in this WSA. Water hauling is a necessary activity connected with grazing in portions of the WSA and could even require the periodic improvement of vehicular ways for accessibility. The restrictions on vehicular travel would create hardships and would seriously affect livestock operators in the management of their allotments within the WSA.

A herd of 35 horses would continue to use the area under this alternative. The herd would benefit from wilderness management, which would preserve the area's solitude and naturalness. Management of the horses would be more difficult because of restrictions on vehicular access.

### VISUAL RESOURCES

A slight benefit would occur to the visual resources of the WSA because the VRM class would be established as Class I. Class I generally allows only natural ecological changes and, therefore, would reduce the potential for surface-disturbing activities to about 100 acres.

Although mitigating measures would be applied to reduce visual contrast created by 100 acres of mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation, some permanent localized degradation could be expected. If roads for development of valid mining claims (worst-case analysis) could not be denied, VRM Class I objectives might not be met on large portions of the WSA. Because the potential for development of mining claims is low and they would probably be localized in the southern end of the WSA, visual quality would probably not be reduced in the WSA as a whole.

### CULTURAL RESOURCES

There is little potential for increased vandalism to cultural resources (not currently a problem) due to increased recreational use of the WSA from wilderness designation. Also, protection afforded by reduction of surface-disturbing activities

under wilderness management would outweigh any potential vandalism problems caused by recreational activity. The overall impact would be positive.

### RECREATION

Under this alternative, possible surface disturbance would be reduced from 266 acres to 100 acres, and primitive recreational opportunities would be recognized, managed, and preserved. The Fossil Mountain area would be protected from surface disturbance related to locatable mineral development and oil and gas and geothermal exploration and development. The quality of recreational opportunities would be reduced in the disturbed areas, especially where new roads are constructed for development of valid mining claims. Because the potential for mineral production is low, because existing claims are located in the southernmost portion of the WSA, rather than throughout the WSA, and because wilderness designation would reduce the potential for surface disturbance, the quality of the primitive recreational experience would be preserved throughout most of the area.

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Increased population due to IPP and publicity of the WSA that would likely follow wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. As recreation use increases, commercial operations based on primitive recreational activities could apply for use of the WSA.

Except on existing ways, no vehicular use is occurring or is likely to occur due to topographic restraints. Closure of 30 miles of ways to motor vehicles would make vehicular access more difficult only in the peripheral areas of the WSA. Closure of access would have no effect on fossil collecting at Fossil Mountain, because the mountain is close to the WSA boundary and is not currently accessible by vehicle. Therefore, little impact on the overall recreational use of the area would be expected from restrictions on vehicular access.

### WILDERNESS VALUES

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance within the WSA would, therefore, be reduced from 266 acres to 100 acres for development of mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there were no reasonable alternatives. Mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive, unconfined recreation on the affected areas. Because the potential for locatable mineral production is low due to economic restraints and low resource potential, because mitigation would be imposed to protect wilderness values, and because the 4,000 acres of mining claims are isolated in the southernmost part of the WSA, loss of wilderness values under this alternative would be less likely than under the No Action Alternative, and would not occur throughout the area as a whole. Although vehicular ways would be closed to vehicular use, considering the flatness of 40 percent of the WSA and the numerous ways in the WSA, it would be difficult to prevent motorized activity in the foothill portion of the area. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

The existing House Range MFP does not provide for wilderness designation. The forthcoming Warm Springs MFP will acknowledge the wilderness study, but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

The *Millard County Master Plan* favors multiple use of most public lands. This alternative would conflict with the County's multiple-use concept because restrictive conditions would be placed on mineral development and oil and gas leases would be phased out. If State lands within the WSA are exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

### SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation, there could be slight losses in local income and Federal revenues currently provided by resource use in the WSA (refer to Table 9), as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed, but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $138,120 annually of livestock sales, and $34,530 of ranchers' returns to labor and investment.

Closure of the WSA to harvest of forest products could result in loss of firewood harvest valued at $3,750 per year; however, other areas outside the WSA could be utilized to supply firewood.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide).

The loss of 73,890 acres now leased for oil and gas could cause the eventual loss of up to $221,670 per year of lease fees to the Federal Treasury. In addition, the opportunity to lease an additional 10,880 acres with a potential lease fee of up to $32,640 per year would be foregone, along with any potential royalties from new lease production.

Livestock grazing fees would continue to provide up to $9,668.40 annually in Federal revenues at $1.40 per AUM. Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases. There are presently no commercial outfitters using the WSA.

## Partial Wilderness Alternative (53,044 Acres)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 53,044-acre area designated as wilderness and the 31,726-acre nondesignated area are discussed in the Description of the Alternatives section.

It is assumed that, in the designated area, existing mining claims (approximately 1,500 acres) would eventually be explored and developed, causing an estimated 64 acres of disturbance. It is also assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities and that leases would not be renewed or future leasing of oil and gas or geothermal resources allowed.

It is assumed that, within the nondesignated area, 36 acres would be disturbed sometime in the future due to locatable mineral exploration and development and 60 acres would be disturbed due to oil and gas and geothermal exploration and development.

Overall, 160 acres of surface disturbance could occur within the WSA, 106 acres less than under the No Action Alternative and 60 acres more than with the All Wilderness Alternative. (Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.)

Restrictions on management and development methods within the WSA would result in essentially the same impacts to vegetation, forest, and cultural resources, and to land use plans and controls as described for the All Wilderness Alternative. The following analysis describes only the measurable differences.

### MINERAL AND ENERGY RESOURCES

#### Leasable Minerals

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. The entire 53,044-acre area is currently under lease for oil and gas. Although almost all leases in this area are pre-FLPMA, it is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be reissued. This represents the worst-case analysis for minerals.

It cannot be determined how much of the existing potential resource of 10 to 50 million barrels of in-place oil and 60 to 300 billion cubic feet of natural gas falls within the area that would be designated as wilderness under this alternative. Of these amounts, 3 to 15 million barrels of oil and 18 to 100 billion cubic feet of natural gas are estimated to be recoverable. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 6 to 31 million barrels of oil (2 to 9 million barrels considered recoverable) and 36 to 187 billion cubic feet of natural gas (11 to 62 billion cubic feet considered recoverable) could be foregone. This would allow recovery of up to 1 to 6 million more barrels of oil and 7 to 38 billion more cubic feet of natural gas than with the All Wilderness Alternative. The low gradient geothermal resource could be recovered on the 31,726-acre nondesignated area, although there is no market for the resource and it is unlikely it would be developed.

This alternative is not expected to result in any significant loss in recovery of geothermal resources. The significance of loss in recovery of the oil and gas resources cannot be determined without further information.

### Locatable Minerals

Less than 50 percent of the 205 mining claims in the WSA (approximately 1,500 acres) is within the area that would be designated wilderness. The remaining 2,500 acres of claims would be outside the designated wilderness and would not be subjected to wilderness protection considerations. Within the wilderness area, development work, extraction, and patenting could continue on valid claims after wilderness designation, under unnecessary or undue degradation guidelines but with consideration given to wilderness values. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981b).

It cannot be determined how much of the potential deposits of up to 10 tons of beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten in the WSA fall within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits were not included in mining claims filed before designation, the potential for recovery of 6 tons of beryllium, 31,287 tons of lead/zinc, and 313 tons of tungsten would be foregone. This alternative would, therefore, allow for recovery of as much as 4 more tons of beryllium, 18,713 more tons of lead/zinc, and 187 tons more tungsten than the All Wilderness Alternative.

Because these metals are not being recovered at present within the WSA and because economic considerations (e.g., transportation, low potential, etc.) are unfavorable, it is unlikely that development would occur even if the area were not designated wilderness. Therefore, this alternative would not have a significant effect on the recovery of beryllium, lead/zinc, or tungsten.

## WILDLIFE

As with the All Wilderness Alternative, wildlife would benefit from the preservation of naturalness and solitude on about 63 percent of the WSA. This alternative would better allow for construction and maintenance of the proposed guzzlers and for monitoring of the vegetation study plots, because 28 of the 30 miles of vehicular ways would be available for access.

Surface disturbance from mineral development would reduce yearlong crucial golden eagle habitat by as much as 160 acres for the life of the activities. Mineral exploration and development would cause mobile animals to leave the area of disturbance and less mobile species to either perish or coexist at smaller and less viable levels. This acreage represents less than 1 percent of the total habitat in the WSA, and the overall effect on wildlife would be negligible. Approximately 9 percent (745 acres) of the antelope habitat, 63 percent (53,044 acres) of the deer and golden eagle habitat, and 62 percent (1,940 acres) of the chukar habitat in the WSA would be in the designated portion. Appropriate measures would be taken to protect the peregrine falcon and bald eagle prior to any surface-disturbing activity, and it can be assumed that the viability of populations of these species would be preserved.

## LIVESTOCK AND WILD HORSES

The negative effect on domestic livestock grazing from designation of this WSA as wilderness would be lessened under this alternative. Of the 6,906 AUMs allocated within the WSA, approximately 3,668 AUMs would be within the designated portion of the WSA and 3,238 AUMs within the nondesignated portion. None of the existing or proposed livestock developments are in this portion of the WSA, so they could be developed without consideration of wilderness values. Development of future, currently unplanned, livestock management facilities in the part of the WSA that would be designated wilderness could

be restricted to preserve wilderness values. Water developments (well or reservoirs) currently not planned but possibly necessary in the future in the Breck's Knoll Allotment for better livestock distribution probably would not be allowed in the designated portion of the WSA. Of the approximately 30 miles of existing vehicular ways, only about 2 miles are within the area that would be designated. This would greatly reduce but not eliminate the potential for hardship to permittees who presently use the ways for hauling water and salt to manage sheep camps, and to BLM in the management of the area's wild horse herd. About 35 head of horses would continue to use the area.

### VISUAL RESOURCES

Because total surface disturbance in the WSA could be as much as 160 acres under this alternative, as opposed to 266 acres under the No Action Alternative and 100 acres under the All Wilderness Alternative, the potential for impact on visual resources would be less than under No Action and more than under All Wilderness. The portion of the unit that would be designated and, therefore, managed under VRM Class I standards contains all the higher quality Class B scenery within the WSA. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded on disturbed acreages both in and outside of the designated area. VRM Class I management objectives within the designated wilderness would not be met during the short term on disturbed areas. Even after rehabilitation, some permanent localized degradation could be expected. Future claims could be staked and leases issued in the portion of the WSA that would not be designated. This portion surrounds the area that would be designated and disturbance without consideration for wilderness values could negatively affect visual quality of the adjacent wilderness. However, because the potential for development of mining claims is low, because the claims are not scattered throughout the WSA but are localized in the southernmost part of the WSA, and because the potential to develop oil and gas is limited to the nondesignated portion of the unit, the potential for visual quality to be reduced in the WSA is much less under this alternative than under the No Action Alternative.

### RECREATION

Impacts on recreational values and opportunities for the 53,044-acre area that would be designated wilderness would be basically as described in the All Wilderness Alternative. Of the 30 miles of existing ways, about 28 miles are in the area that would not be designated. Also, the potential for new road construction for mineral exploration and development and livestock management would be greater under this alternative. This would allow for better recreational access into the King Top WSA for activities such as hunting, although it would also reduce the quality of the area's opportunities for primitive recreation.

### WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 53,044 acres that would be designated wilderness. Wilderness designation would contribute to the preservation of the area's wilderness characteristics. Under this alternative, the potential for surface-disturbing activities that could impair wilderness values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the area to future mineral leasing and location. Almost all of the wilderness values are in this portion. Size, naturalness (53,044 acres meet the standard), outstanding opportunities for solitude (about 46,000 acres meet the standard), primitive recreation (about 1,500 acres meet the standard), and special features (the wild horse herd and Fossil Mountain proper are included) would be preserved. Although recreational use could increase (refer to the Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected. There would be some loss of wilderness values due to allowable surface disturbance from mineral exploration activities on up to 64 acres in the designated portion. Assuming a worst-case analysis, the loss of wilderness values could occur throughout the WSA as a whole if roads and vehicular ways from development of existing mining claims were located throughout the WSA. This is unlikely because the claims are localized in the southernmost portion of the WSA.

In the 31,726-acre area that would not be designated, there would be as much as 96 acres of disturbance from mineral and energy exploration and development activities. Those activities would degrade or destroy wilderness values, including naturalness on most of the area and outstanding opportunities for solitude on about 4,000 acres. This portion of the unit has about 420 acres having outstanding opportunities for primitive recreation. Development on this portion without consideration of wilderness values could result in sights and sounds that would degrade

the wilderness experience of visitors within the designated area. Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## SOCIOECONOMICS

There would not be significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under the Partial Wilderness Alternative, there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 9) as well as a loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed, but designation would preclude new leases and claims from being established in the 53,044-acre designated portion of the WSA. As with the All Wilderness Alternative, precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by the Partial Wilderness Alternative. However, any local income related to assessment of future mining claims on the 53,044-acre designated portion would be lost.

Annual harvest of $3,750 worth of firewood could be continued on the nondesignated area. Livestock use and ranchers' income would continue as at present, with $138,120 annually of livestock sales, and $34,520 of ranchers' returns to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide).

The loss of 51,124 acres now leased for oil and gas in the potentially designated area would cause an eventual loss of up to $153,372 per year of lease fees to the Federal Treasury. There are 1,920 acres in the 53,044-acre area that would be designated wilderness that are open to oil and gas lease, but are presently unleased. Under this alternative, this acreage could not be leased, eventually leading to a loss of up to $5,760 in Federal lease fees. In addition to these lease fees, any potential royalties from new lease production on the 53,044-acre designated portion could also be foregone.

Approximately 8,960 enclosed acres could be leased for oil and gas to bring up to an additional $26,880 to the Federal Treasury.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases. There are presently no commercial outfitters using the WSA.

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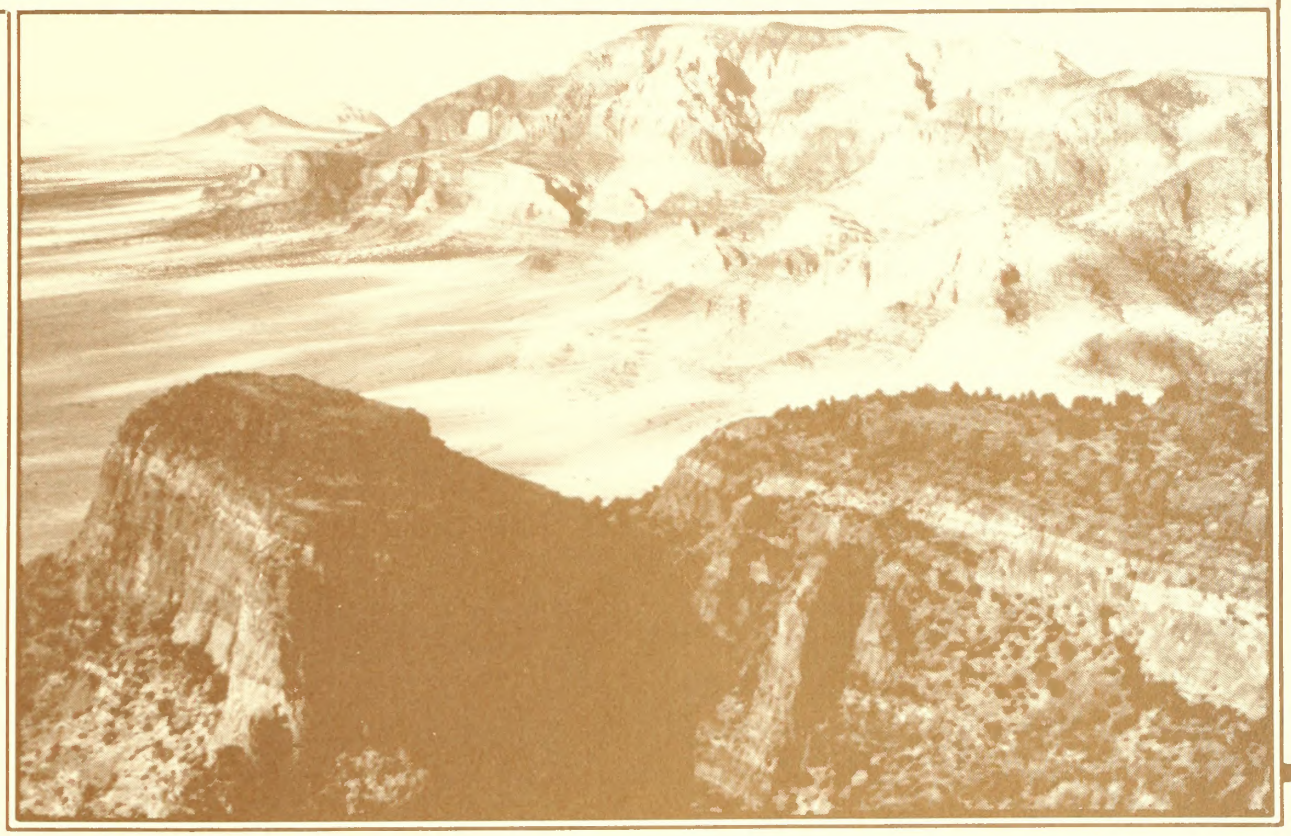
# Wah Wah Mountains WSA



# WAH WAH MOUNTAINS WSA
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# WAH WAH MOUNTAINS WSA
# (UT-050-073 AND 040-205)

## INTRODUCTION

### General Description of the Area

The Wah Wah Mountains Wilderness Study area (WSA) is located approximately 20 miles from the Utah-Nevada border in Millard and Beaver Counties. It is approximately 35 miles west of Milford, Utah. The WSA is approximately 42,140 acres in size, with 35,000 acres in Millard County and 7,140 acres in Beaver County. The WSA is 20 miles long and 5 miles wide at its widest point. Elevation ranges from 6,000 feet to over 8,900 feet.

The Wah Wah Mountains are an above-average example of the north-south trending blockfaulted mountain ranges of the Great Basin. Crystal Peak (7,106 feet), a distinctive landform comprised of white volcanic tuff in the northern part of the WSA, is a striking remnant of the tertiary volcanoes that preceded blockfaulting in the area. The upper elevations of the Wah Wah Mountains are remote and undisturbed. The predominant vegetation is pinyon-juniper. A stand of bristlecone pine is located in the center of the WSA.

Precipitation ranges from 12 inches at the lower elevations to 20 inches on the higher ridges. The temperature extremes range from -27 degrees Farenheit (F) in winter to 106 degrees F in the summer.

### Specific Issues Identified in Scoping

General issues pertaining to more than the Wah Wah Mountains WSA are discussed in Volume I. Issues and concerns raised in public scoping meetings (USDI, BLM, 1984c) specific to Wah Wah Mountains WSA are responded to below.

1. *Comment:* The occurrence of the sensitive plant species *Cryptantha compacta, Sphaeralcea caespitosa, Sclerocactus pubispinus,* and *Penstemon nanus* in or near this WSA should be considered in the decision-making process.

   *Response:* Two sensitive plant species, *Penstemon nanus* and *Sphaeralcea caespitosa* may be found in the WSA and are addressed in the Vegetation sections of this document. Wilderness designation would protect these species by reducing the potential for surface disturbance. According to the Fish and Wildlife Service (USDI, FWS, 1982), neither *Sclerocactus pubispinus* or *Cryptantha compacta* are found in the WSA.

2. *Comment:* Were the naturalness criteria consistently applied? Portions of this WSA are believed to contain significant intrusions.

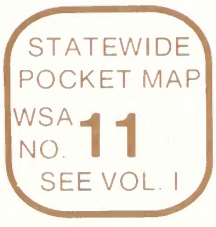
   *Response:* As discussed in the Wilderness Values sections of this document, there are approximately 5 miles of vehicular ways which penetrate WSA boundaries. These were judged substantially unnoticeable during the *BLM Intensive Wilderness Inventory* (USDI, BLM, 1980a). Overall, the WSA is judged by BLM to be one of the most remote, untouched mountain ranges in the West Desert.

Issues and concerns raised in early scoping (prior to 1984) specific to Wah Wah Mountains WSA are responded to below:

1. *Comment:* The Wah Wah Mountains do not contain sufficient quality wilderness characteristics to qualify for wilderness designation.

   *Response:* As discussed in the Wilderness Values sections of this document, wilderness characteristics in the Wah Wah Mountains WSA were documented during the *BLM Intensive Wilderness Inventory* as follows: (1)naturalness: overall the WSA is considered natural; (2) solitude: approximately 40,940 acres provide outstanding opportunities for solitude; (3) primitive and unconfined recreation: approximately 40,940 acres provide outstanding opportunities for primitive and unconfined recreation; and (4) special features: Crystal Peak and bristlecone pine were identified.

2. *Comment:* Mineral and energy exploration and development would conflict with wilderness designation. The oil and gas potential of the WSA is ranked low by Science Applications, Inc. (SAI, 1982). Based on proprietary information, representatives of the oil and gas industry believe the potential of the WSA to be at least high. This information should be considered in the Draft Environmental Impact Statement (EIS).



*Response:* The impact that wilderness designation or nondesignation would have on wilderness and mineral resources is discussed under the Mineral and Energy Resources and Wilderness Values sections of this document. There are approximately 1,235 acres of mining claims within the WSA, 835 of which are in the vicinity of Crystal Peak. Even after wilderness designation, surface disturbance from possible exploration and development of these claims could impair wilderness values in the WSA. The SAI (1982) rating for oil and gas potential in the WSA is f2 (low) on a scale of 1 to 4, where 4 is equated with high mineral importance. The opportunity to develop the oil and gas resource would be lost with wilderness designation. At this time BLM has not made an independent assessment of geologic information gathered by oil and gas companies. The SAI (1982) report will be used as the reference on oil and gas potential for this EIS, but information provided by the oil and gas industry and available mineral investigation reports by the USDI, Geological Survey and Bureau of Mines will be reviewed by BLM prior to making final wilderness recommendations to the Secretary of the Interior.

3. *Comment:* The area cannot be managed to protect wilderness quality with proposed boundaries.

*Response:* There is no reason to believe that the boundaries of either the All Wilderness or the Partial Wilderness Alternatives are unmanageable due to vehicular access or land ownership conflicts. However, there is a manageability conflict under both alternatives due to possible mineral development. As discussed in the Description of the Alternatives section of this document, there are no private lands in the WSA. As discussed in the Recreation and Wilderness Values sections, vehicular access is currently restricted to 5 miles of existing ways due to the area's rugged topography. Existing ways could be closed to vehicular use for wilderness management purposes under either alternative. As discussed in the response to Comment 2 above, after wilderness designation surface disturbance from development of existing claims could impair wilderness values even after designation. The Partial Wilderness Alternative would slightly reduce the manageability problem stemming from possible mineral development.

# DESCRIPTION OF THE ALTERNATIVES

## Alternatives Considered and Eliminated from Detailed Study

No alternatives were identified for this WSA other than those analyzed.

## Alternatives Analyzed

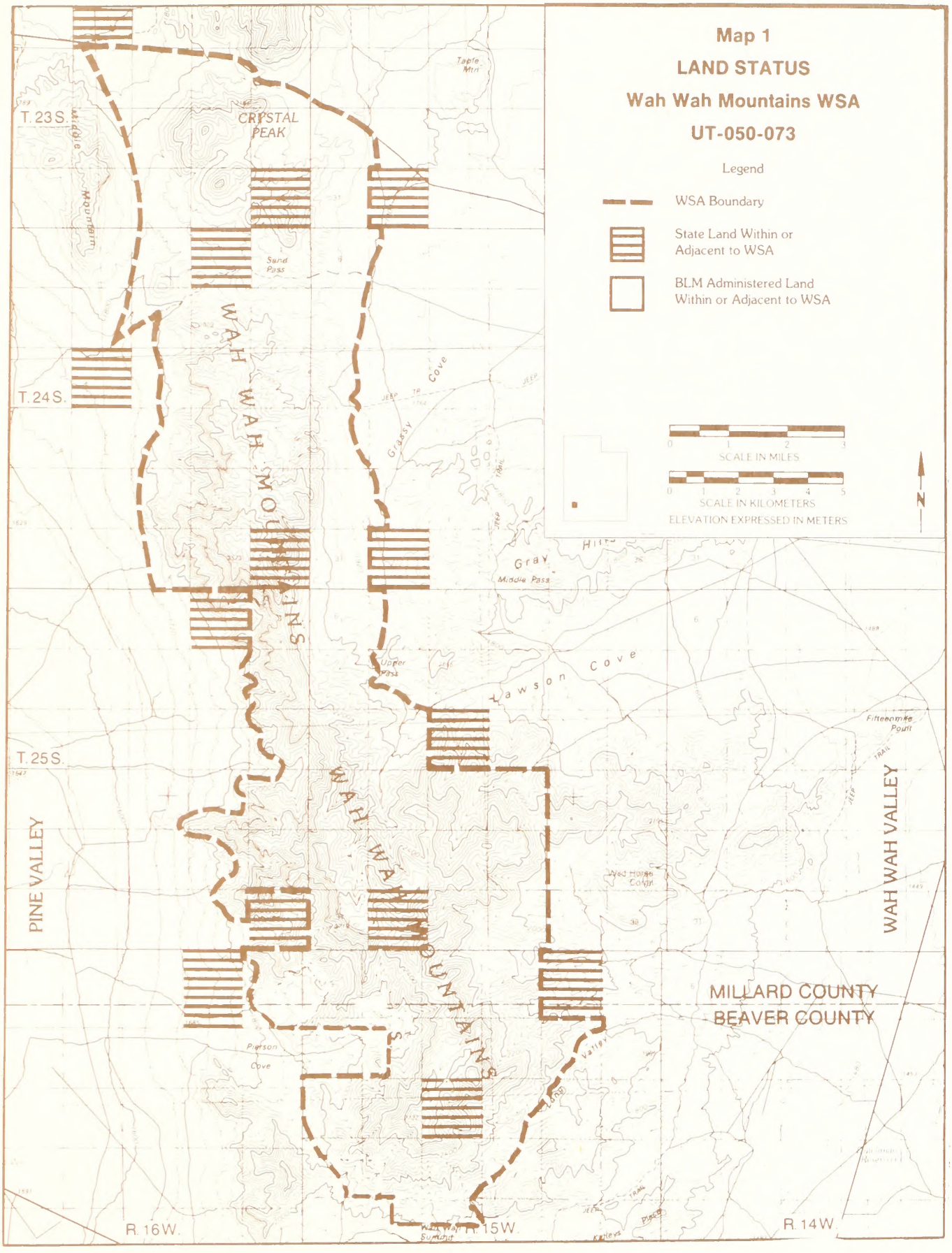
Three alternatives are analyzed for this WSA: (1) No Action; (2) All Wilderness (42,140 acres); and (3) Partial Wilderness (36,382 acres). A description of each alternative follows. Where management actions have not been clearly identified, assumptions are made based on management projections under each alternative. These assumptions are indicated in each case.

### NO ACTION ALTERNATIVE

Under this alternative, none of the 42,140-acre Wah Wah Mountains WSA would be designated by Congress as part of the National Wilderness Preservation System (NWPS). The area would continue to be managed in accordance with the Wah Wah Mountains Management Framework Plan (MFP) (USDI, BLM, 1973) until that plan is superceded by the Warm Springs Resource Management Plan (RMP) currently scheduled for completion in 1987. The State land within the area (3,840 acres) of the WSA (refer to Map 1) has not been identified in the MFP for special Federal acquisition through exchange or purchase.

The following are specific actions that would take place under this alternative:

- All 42,140 acres would remain open to mineral location, leasing, and sale. Development work, extraction, and patenting would be allowed on existing mining claims (1,235 acres) and future mining claims. Development would be regulated by unnecessary or undue degradation guidelines (43 Code of Federal Regulations [CFR] 3809) without wilderness considerations. Existing oil and gas leases (37,590 acres) and future leases could be developed under leasing Category 1 (standard stipulations) on about 24,860 acres and Category 3 (no surface occupancy) on about 8,160 acres. The remaining 9,120 acres would be closed to leasing (Category 4).


Map 1
LAND STATUS
Wah Wah Mountains WSA
UT-050-073
Legend
WSA Boundary
State Land Within or Adjacent to WSA
BLM Administered Land Within or Adjacent to WSA
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 23 S.
T. 24 S.
T. 25 S.
R. 16 W.
R. 15 W.
R. 14 W.
CRYSTAL PEAK
Table Mtn
Middle Mountain
Sand Pass
WAH WAH MOUNTAINS
Grassy Cove
Gray Middle Pass
Upper Pass
Lawson Cove
Fifteenmile Point
WAH WAH VALLEY
PINE VALLEY
Wild Horse Canyon
Pierson Cove
MILLARD COUNTY
BEAVER COUNTY

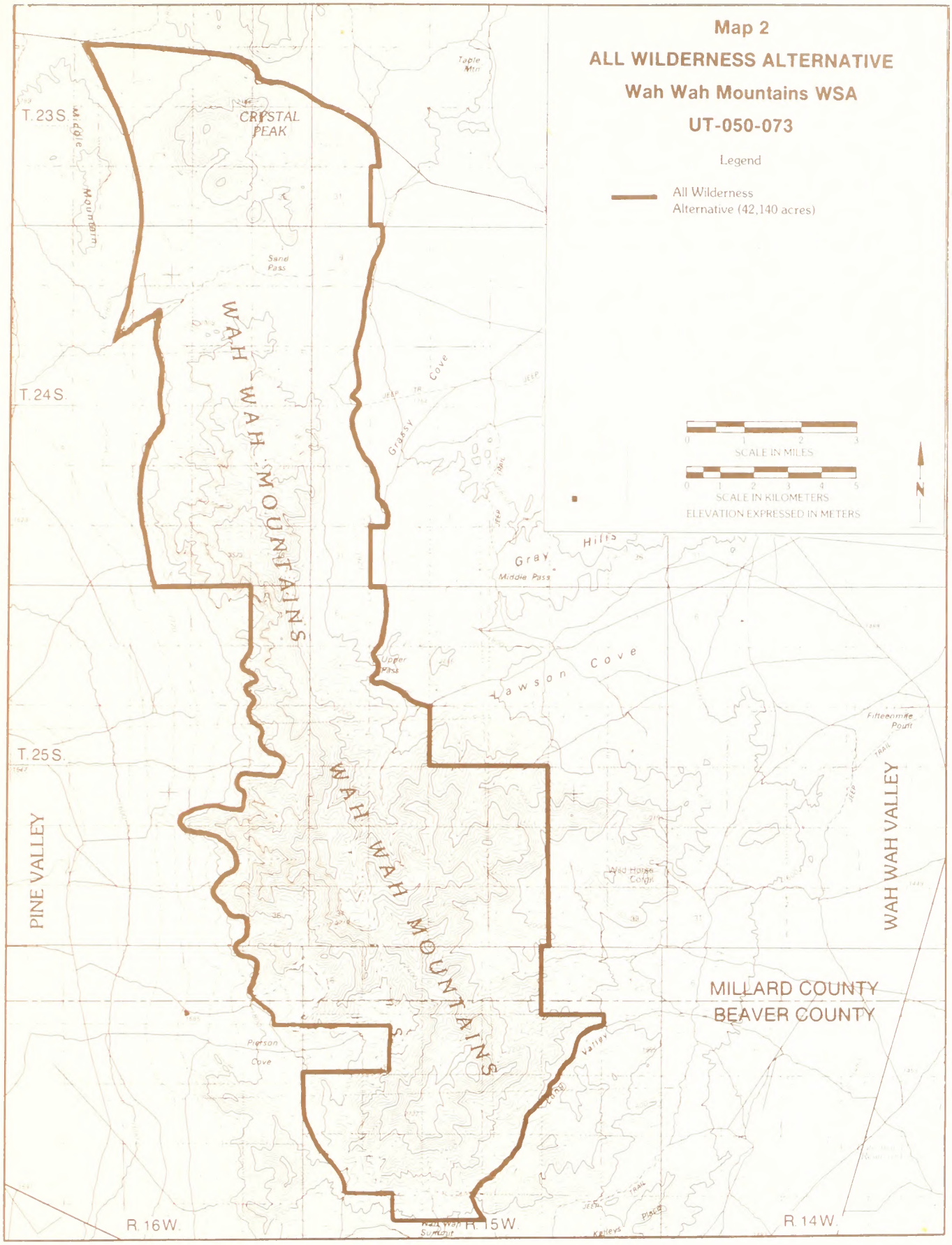
- The present domestic livestock grazing use (approximately 916 Animal Unit Months [AUMs] for cattle and 2,100 AUMs for sheep) in the 42,140-acre area of the WSA would continue as authorized in the MFP or applicable BLM planning document. Existing (1 mile of fence) and future rangeland developments could be implemented and maintained without wilderness considerations. No additional range improvements are planned.
- Developments for wildlife, water resources, etc. would be allowed if in conformance with the applicable BLM land use plan. One wildlife guzzler is planned.
- The entire acreage would be open to off-road vehicle (ORV) use and new access routes for development would be allowed. Use of all existing roads and about 5 miles of vehicular ways would be allowed to continue.
- The entire 42,140-acre area would be open to woodland product harvest. There is no specific plan to harvest forest products at the present time.
- The area would be managed under Visual Resource Management (VRM) classes to be determined in future planning.
- Measures to control fire, insects, noxious weeds, or disease would be taken in instances that threaten human life, property, or high-value resources.
- Activities for the purpose of gathering information would be allowed by permit provided they are carried on in an environmentally sound manner.
- Motorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Control of predators would be allowed without wilderness considerations to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. Methods of control would be determined as appropriate.
- A variation under the No Action Alternative would be the designation of 360 acres including and surrounding Crystal Peak as an Outstanding Natural Area (ONA). This would include closing the 360 acres to ORV use; mineral leasing, location, and sale; and woodland harvest. Under this variation the remaining 41,780 acres would be managed as described above in the No Action Alternative. Designation of an ONA would be a separate action subsequent to any Congressional action on the wilderness review and is not analyzed further here.

### ALL WILDERNESS ALTERNATIVE

Under this alternative, all 42,140 acres of the Wah Wah Mountains WSA would be designated by an act of Congress as part of the NWPS (refer to Map 2). It would be managed in accordance with the "Wilderness Management Policy" (USDI, BLM, 1981) to preserve its wilderness character. Upon designation, acquisition of six sections of State land (3,840 acres) within or nearly surrounded by the the WSA (refer to Map 1) is likely and would be authorized by purchase or exchange. Four of seven State sections adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. (Refer to Volume I for further information regarding State in-holdings.) The figures and acreages given for this alternative are for Federal lands only. No private or split estate lands are located in the WSA.

The following are specific actions that would be taken under this alternative:

- After wilderness designation, all 42,140 acres would be withdrawn from mineral location and closed to new mineral leasing and sale. Development work, extraction, and patenting would be allowed to continue on that portion of the approximately 1,235 acres of existing mining claims that may be determined valid. Development would be regulated by unnecessary or undue degradation guidelines (43 CFR 3809) with consideration given to wilderness values. Existing oil and gas leases involving about 37,590 acres would be phased out upon expiration unless a find of oil or gas in commercial quantities is shown.
- Present domestic livestock grazing would be allowed to continue as authorized in the Wah Wah Mountains MFP. The 3,016 AUMs on portions of six allotments in the WSA would remain available to livestock as presently allotted. The use and maintenance of rangeland developments (in this case 1 mile of fence) existing at the time of


Map 2
ALL WILDERNESS ALTERNATIVE
Wah Wah Mountains WSA
UT-050-073
Legend
All Wilderness Alternative (42,140 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 23 S.
T. 24 S.
T. 25 S.
R. 16 W.
R. 15 W.
R. 14 W.
CRYSTAL PEAK
Middle Mountain
Sand Pass
WAH WAH MOUNTAINS
Grassy TR Cove
Gray Hills
Middle Pass
Upper Pass
Lawson Cove
Fifteenmile Point
WAH WAH VALLEY
PINE VALLEY
Wild Horse Canyon
MILLARD COUNTY
BEAVER COUNTY
Pierson Cove
Wah Wah Summit
Kelleys

designation could continue in the same manner as in the past based on practical necessity and reasonableness. After designation, new rangeland developments would be allowed on a case-by-case basis if necessary for rangeland and/or wilderness resource protection and management provided that wilderness protection standards are met (refer to Appendix 1). None are presently planned.

- New water resource facilities or watershed activities (not related to rangeland and/or wildlife management) would be allowed after designation only if compatible with wilderness values, if needed to correct imminent hazards to life and property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act* (Eighty-Eighth Congress of the U.S., 1964). No water resource facilities or treatments are located in the Wah Wah Mountains WSA.
- Wildlife transplants or habitat improvements would be allowed after designation if compatible with wilderness values. None are existing but one wildlife guzzler is planned in this WSA. The guzzler would be allowed as long as it is designed to meet wilderness protection criteria (refer to Appendix 1).
- The entire 42,140-acre area would be closed to ORV use except for: (1) users with valid existing rights, if approved by BLM in accordance with 43 CFR rules; or (2) for occasional and short-term vehicular access approved by BLM for maintenance of approved livestock developments. About 5 miles of existing vehicular ways would not be available for vehicular use, except as indicated above. About 5 miles of gravel road along the north boundary of the WSA and 1 mile of dirt road near the east side of Sand Pass, which would be "cherry-stemmed," would remain open to vehicular travel. Numerous other dirt roads and jeep trails leading to the WSA from the east and west would be open to vehicular travel to the WSA boundary, where vehicular access would be terminated.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 42,140-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to or "cherry-stemmed" into the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood, if accomplished by other than mechanical means. There is no specific plan for harvest of forest products at the present time.
- Visual resources would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change.
- Measures to control fire, insects, noxious weeds, or disease within the 42,140-acre area would be taken in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Measures taken would be required to have the least impact on wilderness values; therefore, it is assumed that controls would be limited to hand and aerial methods.
- Any activity for the purpose of gathering information about natural resources in the 42,140-acre area would be allowed by permit provided it is carried on in a manner compatible with the preservation of the wilderness resources. Research and other studies would be conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- Nonmotorized hunting would be allowed subject to applicable State and Federal laws and regulations.
- Where control of predators is necessary to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock, it would be accomplished by methods directed at eliminating the offending individuals while at the same time presenting the least possible hazard to other

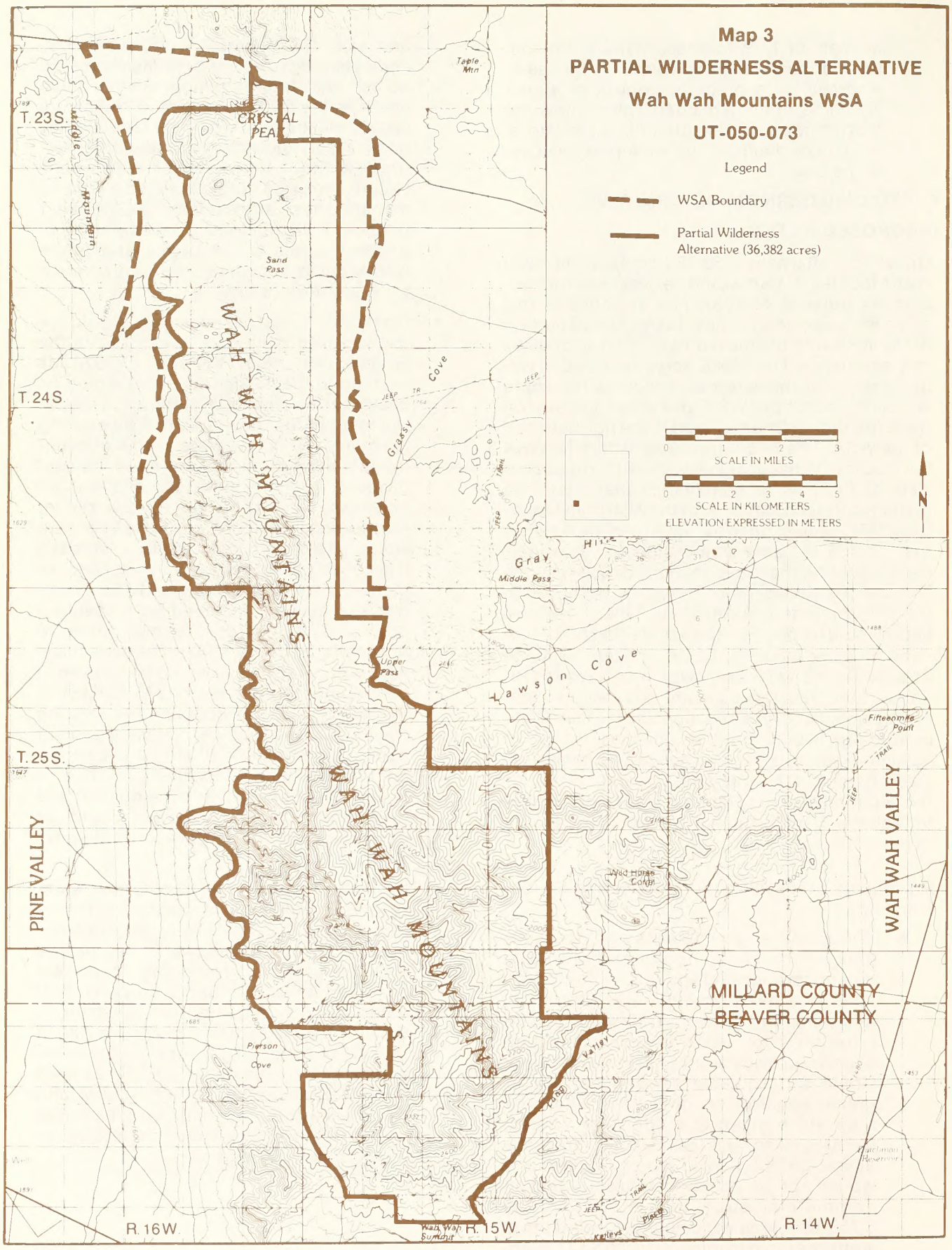
animals or to wilderness visitors. Poison baits or cyanide guns would not be used. Approval of a predator control program would be contingent upon a clear showing that removal of the offending predators would not diminish the wilderness values of the area.

## PARTIAL WILDERNESS ALTERNATIVE (PROPOSED ACTION)

Under this alternative, 36,382 acres of the Wah Wah Mountains WSA would be designated as wilderness (refer to Map 3). The objective of this alternative is to analyze as wilderness that portion of the WSA with the most outstanding wilderness characteristics. The 36,382 acres analyzed as wilderness under this alternative include the entire southern half of the WSA and the mountain top parts (including Crystal Peak) in the northern half of the WSA. The 5,758-acre area within the WSA but outside of that designated as wilderness consists of foothills or benchlands that would be managed in accordance with the Wah Wah Mountains MFP, as described for the No Action Alternative. The 36,382-acre area designated as wilderness would be managed in accordance with the "Wilderness Management Policy," as described in the All Wilderness Alternative. This alternative likely would involve Federal acquisition of six sections of State land. Two of four State sections adjacent to the WSA likely would be exchanged. Should land transfers be made, it is assumed that management and types of impacts to former State in-holdings would be the same as those on adjacent Federal lands, and no specific analysis is given here. The figures and acreages given for this alternative are for Federal lands only. (Refer to Volume I for further information regarding State in-holdings.)

A summary of specific actions under this alternative follows.

- The 36,382-acre wilderness would be withdrawn from mineral entry and closed to new mineral leasing and sale. In the 36,382-acre area development work, extraction, and patenting would be allowed to continue on 1,155 acres of existing mining claims, provided they are valid. Work would be regulated by unnecessary or undue degradation guidelines with consideration given to wilderness values. Existing oil and gas leases, which cover the entire 36,382 acres, would expire and would not be renewed unless a find in commercial quantities is shown. The 5,758-acre area not designated wilderness would be open to mineral location, leasing, and sale. Development work, extraction, and patenting of existing mining claims (80 acres) and future mining claims could occur in the 5,758-acre area if claims are valid. Development would be regulated by unnecessary or undue degradation guidelines without concern for wilderness values. The area not designated would be managed as oil and gas leasing Category 1 (standard stipulations). Development of existing leases (1,208 acres) and future leases could be allowed without concern for wilderness values.
- Domestic livestock grazing would be allowed to continue as authorized in the Wah Wah Mountains MFP. The 1,746 AUMs existing in the 36,382-acre area would be allowed to be utilized by cattle and sheep in the manner that now occurs. The existing .25 mile of fence could be used and maintained in the same manner as in the past based on practical necessity and reasonableness. After designation, new rangeland developments (none are currently planned) would be allowed on a case-by-case basis if necessary for the protection and effective management of the rangeland and/or wilderness resource, provided that wilderness protection standards are met (refer to Appendix 1). In the 5,758-acre nonwilderness area, grazing use would be allowed to continue as authorized (1,276 AUMS) in the MFP. This area contains the existing ways now used for livestock management access, and this use would be allowed to continue. Existing facilities (.75 mile of fence) could be used and maintained and new rangeland developments could be developed without concern for wilderness values.
- In the 36,382-acre wilderness, new water resource facilities or watershed activities (not related to rangeland or wildlife management) would be allowed if compatible with wilderness, if necessary to correct imminent hazards to life or property, or if authorized by the President pursuant to Section 4(d)(4)(1) of the *Wilderness Act*. In the remaining 5,758-acre area, water resource developments would be allowed if in accordance with the current BLM land use plan without concern for wilderness values. No livestock water developments are currently planned.


Map 3
PARTIAL WILDERNESS ALTERNATIVE
Wah Wah Mountains WSA
UT-050-073
Legend
WSA Boundary
Partial Wilderness Alternative (36,382 acres)
SCALE IN MILES
SCALE IN KILOMETERS
ELEVATION EXPRESSED IN METERS
N
T. 23 S.
T. 24 S.
T. 25 S.
R. 16 W.
R. 15 W.
R. 14 W.
WAH WAH MOUNTAINS
WAH WAH MOUNTAINS
PINE VALLEY
WAH WAH VALLEY
MILLARD COUNTY
BEAVER COUNTY
CRYSTAL PEAK
Table Mtn
Middle Mountain
Sand Pass
Grassy Cove
Gray Hills
Middle Pass
Upper Pass
Lawson Cove
Fifteenmile Point
Wild Horse Corral
Pierson Cove
Wah Wah Summit
Kelleys Cabin
Reservoir

- In the 36,382-acre wilderness, wildlife transplants or habitat improvements would be allowed if compatible with wilderness values. The planned guzzler is in this area and would be allowed if developed in accordance with wilderness protection standards (refer to Appendix 1). In the 5,758-acre area, transplants or improvements would be allowed if in accordance with the current BLM land use plan without concern for wilderness values. None are currently planned.
- The 36,382-acre wilderness would be closed to ORV use. The 4 miles of existing ways in this part of the WSA would be closed to vehicular access except for situations identified in the All Wilderness Alternative. "Cherry-stemming" of about .50 mile of the road east of Sand Pass would continue to allow vehicle traffic in that area. The remainder of the WSA comprising 5,758 acres would remain open to vehicular travel.
- A specific Wilderness Management Plan would be developed to govern use and protection of the 36,382-acre wilderness. As part of that plan, it is assumed that a maintenance-and-use border would be allowed along roads adjacent to the wilderness area for purposes of road maintenance, temporary vehicle pull-off, and trailhead parking. This border would be up to 100 feet from the edge of the road travel surface. It is assumed that the Wilderness Management Plan would not call for any change in the current military use of air space over the WSA.
- Harvest of forest products in the 36,382-acre wilderness would not be allowed except for harvest of pinyon nuts or noncommercial gathering of dead-and-down wood if accomplished by other than mechanical means. The remaining 5,758 acres would be open to woodland harvest.
- Visual resources on the 36,382-acre wilderness would be managed in accordance with VRM Class I standards, which generally allow for only natural ecological change. The remaining 5,758 acres would be managed in accordance with VRM classes yet to be determined.
- Within the 36,382-acre wilderness area, measures to control fire, insects, noxious weeds, or disease would be taken only in instances that threaten human life, property, or high-value resources on adjacent nonwilderness lands, or where unacceptable change to the wilderness resource would result if the measures were not taken. Only hand or aerial methods would be allowed. In the 5,758-acre nonwilderness area, measures of control would be taken without wilderness considerations.
- In the 5,758-acre nonwilderness area, any activity for the purpose of gathering information about natural resources would be allowed by permit. In the 36,382-acre wilderness, such activity would be allowed by permit but would be limited to that conducted without use of motorized equipment or construction of temporary or permanent structures unless no other feasible alternatives exist.
- In the 5,758-acre area, hunting would be allowed subject to applicable State and Federal laws and regulations. In the 36,382-acre wilderness, the same laws and regulations would apply, but use would be limited to nonmotorized means.
- In the 5,758-acre area, control of predators would be allowed to protect threatened or endangered wildlife species or on a case-by-case basis to prevent special and serious losses of domestic livestock. In the 36,382-acre wilderness, predator control also would be allowed for the same objectives, but poison baits or cyanide guns would not be allowed.

### Summary of Environmental Consequences

Table 1 summarizes the main environmental consequences that would result from implementation of the alternatives. Those resources that would be affected significantly or differently by the alternatives are listed in the table to provide a comparison of the alternatives.

## AFFECTED ENVIRONMENT

This section describes the affected environment. Unless otherwise referenced, this description is based on the Wah Wah Mountains Unit Resource Analysis and MFP (USDI, BLM, 1973) and other BLM technical reports and documents.

## TABLE 1
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## WAH WAH MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (42,140 Acres) | Partial Wilderness Designation (36,382 Acres) (Proposed Action) |
| Mineral and Energy Resources | Although likelihood of development is low, potential recovery could be achieved for up to 3 million barrels of oil, 18 billion cubic feet of natural gas, 10 tons of beryllium, 50,000 tons of lead and zinc, and 500 tons of tungsten. | Oil and gas likely would not be recovered. Assuming a worst-case analysis, the recovery of locatable minerals would also be foregone. Due to the low likelihood of recovery of these mineral resources, however, the loss of development opportunity would not be significant. | Although likelihood is low, up to 0.5 million barrels of oil, 2 billion cubic feet of natural gas, 1.4 tons of beryllium, 7,000 tons of lead and zinc, and 70 tons of tungsten could be recovered. |
| Wildlife | Less than 1 percent of the WSA could be affected by mineral and energy development, which could adversely affect wildlife habitat. | Wildlife would benefit from solitude. | Wildlife in the designated area would benefit from solitude. Less than 1 percent of the nondesignated portion could be disturbed by mineral and energy exploration and development, which could adversely affect wildlife habitat on the disturbed areas. |
| Livestock | Grazing of 3,016 AUMs would continue. There are no rangeland improvements. New developments could be constructed; however, none are now proposed. | Grazing of 3,016 AUMs would continue. Little effect on grazing management is expected. Proposed new developments might not be allowed. | Effects would be the same as for the All Wilderness Alternative. |
| Visual Resources | The quality of visual resources could be impaired on up to 196 acres. | Visual quality could be impaired on up to 30 acres. | Visual quality could be impaired on up to 51 acres (including 26 acres in the designated portion). All of the Class A scenery would be within the designated portion and would be protected by the reduced potential for disturbance. |
| Recreation | ORV use would continue on 5 miles of ways at current low levels. Overall recreational use could increase from the present 155 visitor days per year to 230 over the next 20 years. Up to 196 acres of mineral-related disturbance could reduce the quality of primitive recreation. | The WSA, including 5 miles of ways, would be closed to ORV use. Primitive recreational use could increase by an undetermined amount due to publicity associated with wilderness designation. | ORV recreational use could continue on 4 miles of ways in the undesignated portion. |

## TABLE 1 (CONTINUED)
## SUMMARY OF SIGNIFICANT ENVIRONMENTAL CONSEQUENCES
## WAH WAH MOUNTAINS WSA

| Resource | Alternatives | | |
|---|---|---|---|
| | No Action | All Wilderness (42,140 Acres) | Partial Wilderness Designation (36,382 Acres) (Proposed Action) |
| Wilderness Values | Wilderness values could be lost on up to 196 acres (less than 1 percent of the WSA). | Wilderness values would be protected, except on up to 30 acres, which may be disturbed by development of valid mineral rights. | Wilderness values would be protected, except on 26 acres which could be disturbed by development of valid existing rights. Additional impairment could be expected on less than 1 percent of the 5,758 acres not designated. Overall, wilderness values could be lost on 0.1 percent of the WSA. 86 percent of the area meeting the standards for naturalness and for outstanding opportunities for solitude and primitive recreation would be in the designated portion and would be protected by reduced potential for disturbance. |
| Land Use Plans and Controls | This alternative would be consistent with the *Millard County Master Plan*, State of Utah plans and policies, and the current BLM Wah Wah Mountains MFP. | This alternative would not be consistant with Millard County's concept of multiple use. It would be consistent with State policy if lands were exchanged. Designation would constitute amendment of the BLM Wah Wah Mountains MFP or the forthcoming Warm Springs RMP. | This alternative would be about the same as for the All Wilderness Alternative. |
| Socio-economics | Annual local sales of less than $74,655 and Federal revenues of up to $116,922 would continue. | Annual local sales of less than $74,655 and Federal revenues of up to $4,220 would continue, but Federal revenues of up to $112,700 from mineral leasing would be foregone. The opportunity for future energy and mineral developments and local economic benefits would be reduced in the WSA. | The effects of this alternative would be the same as for the All Wilderness Alternative, except that annual Federal revenues would be reduced by up to $109,146. |

## Air Quality

This WSA is located in a Prevention of Significant Deterioration (PSD) Class II area as defined in the Clean Air Act, as amended. Air quality is generally excellent with unimpaired visibility. The WSA is located near the center of the highest visual range (70+ miles) in the United States (Environmental Protection Agency, 1979).

## Geology

The Wah Wah Mountains WSA is located in the Basin and Range Physiographic Province. Three major processes have most affected the geomorphology at the WSA. These are structural activity, igneous activity, and erosion. Structural activity, in the form of Basin and Range blockfaulting, has had the greatest impact. The Wah Wah Mountains (which comprise most of the WSA) were uplifted in this manner. Topographically, the Wah Wah Mountains are an above-average example of the Great Basin's many north-south trending mountain ranges.

Tertiary volcanism activity (which preceded blockfaulting) deposited large amounts of igneous material in and near the WSA. The northern portion especially has prominent landforms attributable to volcanic activity. Crystal Peak represents the most striking example of this.

Erosion has carved out the Wah Wah Mountains from their original blocky form to the present rugged topography. An important factor in this process is lithology. The fact that the composition of exposed strata varies (in terms of clastic content, etc.) influences weathering patterns. For example, different Paleozoic rocks may produce successions of cliffs, ledges, slopes, knolls, etc., under similar conditions.

Running water, mainly in the form of precipitation and drainage, has played the greatest role in the erosional process. Other contributing factors include freeze-and-thaw cycles (producing fractures, joints, etc.), wind, and gravity sliding.

## Soils

The Wah Wah Mountains' soils are derived from limestone parent material. They are alkaline, well-drained, rocky to gravelly shallow loam, with a well developed hardpan on the lower slopes. Steep slopes with rock outcropping are typical. As slopes give way to alluvial fans and valley bottoms, the soils become denser and change from loam texture on the benches to silty texture on the valley floors. Approximately 40,140 acres of the soil in the WSA are in a slight erosion condition class. Approximately 2,000 acres in the northwest portion are in moderate erosion condition. Erosion potential is generally low throughout the WSA. Erosion conditions were determined using soil surface factors as summarized in Table 2 (terms are defined in the Glossary).

**TABLE 2**
**Erosion Condition**

| Classification | Annual Soil Loss per Acre (cubic yard/acre) | Acres | Percent of WSA | Total Annual Soil Loss for WSA (cubic yard) |
|---|---|---|---|---|
| Severe | 5.4 | 0 | 0 | 0 |
| Critical | 2.7 | 0 | 0 | 0 |
| Moderate | 1.3 | 2,000 | 5 | 2,600 |
| Slight | 0.6 | 40,140 | 95 | 24,084 |
| Stable | 0.3 | 0 | 0 | 0 |
| Total | | 42,140 | 100 | 26,684 |

Sources: USDI, BLM, 1973; Leifeste, 1978.

## Vegetation

According to Foster (1968), the primary vegetation in the WSA is pinyon-juniper woodland. Existing vegetation is categorized in Table 3.

Not accounted for by Foster, but identified by the *BLM Intensive Wilderness Inventory*, are 460 acres of aspen, white fir, and ponderosa. There are also small acres of bristlecone pine on and near ridgetops. Overall there are about 190 acres of bristlecone pine in the central part of the WSA in the aspen-conifer type.

No threatened or endangered plant species are known to occur in the WSA. Two sensitive plant species may be found in the area. These are *Penstemon nanus* and *Sphaeralcea caespitosa*.

**TABLE 3**
**Existing Vegetation Types**

| Existing Vegetation Type | Acres | Percent of WSA |
|---|---|---|
| Pinyon-juniper | 31,566 | 75 |
| Shadscale | 8,850 | 21 |
| Sagebrush | 1,264 | 3 |
| Aspen-conifer | 460 | 1 |

Sources: Foster, 1968; and USDI, BLM, 1980a.

The Wah Wah Mountains WSA lies in the Intermountain Sagebrush Province as shown on the Bailey-Kuchler ecosystems map (USDI, Geological Survey, 1978). The potential natural vegetation (PNV) types of the WSA are juniper-pinyon woodland (25,000 acres) and saltbrush-greasewood (17,140 acres). PNV is the vegetation type that would exist if plant succession were allowed to reach climax without human interference. It does not necessarily reflect the actual vegetation present. PNV is an important object of research because it reveals the biological potential of a site.

## Water Resources

There are no live water or springs within the WSA, nor have any ground water aquifers been identified within the boundaries. The nearest ground water aquifer is several miles from the WSA.

## Mineral and Energy Resources

The BLM, in consultation with the U.S. Department of Energy, had each WSA within Utah independently assessed for its energy and mineral resources by SAI (1982). Refer to Appendix 5 for a detailed description of the SAI rating system.

The potential for mineral resources in this WSA is low to moderate, due to a marginally favorable geologic environment. An overall importance rating (OIR) of 2 was assigned to the Wah Wah Mountains WSA by SAI (1982). The OIR is given on a scale of 1 to 4, where 4 is equated with high mineral importance. Shades of importance are indicated by + or -. The OIR attempts to integrate the individual mineral resource evaluations for a tract with other data, such as gross economics or the proposed location of energy corridors, into a summary number that reflects an overall assessment of the resource importance of the WSA. All resources were assigned favorabilities of f2 or less.

The energy and mineral resource rating summary is given in Table 4.

If the WSA is recommended as suitable for wilderness, its mineral importance will be reviewed by the USDI, Geological Survey and Bureau of Mines in an independent investigation report. Reports will be made available to the public and submitted to the President and Congress as required by the Federal Land Policy and Management Act (FLPMA). BLM and the Secretary of the Interior will also consider the reports prior to making final wilderness recommendations.

The Strategic and Critical Materials Stock Piling Act, as amended, provides that strategic and critical materials be identified and stockpiled in the interest of national defense to prevent a costly and dangerous dependence on foreign sources in time of a national emergency. The Act defines strategic and critical materials as those needed to supply military, industrial, and essential civilian needs during a national emergency but that are not found or produced in the United States in sufficient quantities to meet such a need. The WSA could contain deposits of beryllium, lead, zinc, and tungsten that are currently listed as strategic and critical materials (Federal Emergency Management Agency, 1983).

**TABLE 4**

**Mineral and Energy Resource Rating Summary**

| Resource | Rating | | Estimated Resource |
|---|---|---|---|
| | Favorability[1] | Certainty[2] | |
| Oil and Gas | f2 | c1 | Less than 10 million barrels of oil; less than 60 billion cubic feet of gas |
| Uranium | f1 | c2 | Little to none |
| Coal | f1 | c4 | None |
| Geothermal | f2 | c1 | Low temperature resource |
| Hydroelectric | f1 | c4 | None |
| Beryllium | f2 | c1 | Less than 10 tons |
| Lead/Zinc | f2 | c1 | Less than 50,000 tons |
| Tungsten | f2 | c1 | Less than 500 tons |

Source: SAI, 1982.

[1]Favorability of the WSA's geologic environment for a resource (f1 = lowest, f4 = highest).

[2]Degree of certainty that the resource exists within the WSA (c1 = lowest, c4 = highest).

### LEASABLE MINERALS

There are no known deposits of leasable minerals in the WSA, nor are there any active drilling or exploration activities for leasable minerals. Although oil and gas seismic surveys have taken place nearby, the geologic history of the WSA indicates that large structural traps for oil and gas are unlikely to occur, although small traps may exist in random locations. The overall favorability for the presence of some deposits occurring in the WSA is low, with less than 10 million barrels of oil and less than 60 billion cubic feet of natural gas in-place. Of these amount less than 3 million barrels of oil and 18 billion cubic feet of natural gas would be recoverable. Appendix 6 presents recoverability estimates.

The entire WSA is covered by post-FLPMA leases, except for approximately 4,550 acres under lease application. Oil and gas leases issued prior to the passage of FLPMA in October 1976 are referred to as pre-FLPMA leases and are managed differently than those issued after that date. The latter are known as post-FLPMA leases.

Pre-FLPMA leases are governed by stipulations determined at the time of lease application, before wilderness studies were mandated. These stipulations may allow for the impairment of wilderness values, as a prior and existing right associated with lease development.

Post-FLPMA leases in WSAs contain more restrictive stipulations that require exploration and development to be nonimpairing to wilderness values. Post-FLPMA leases generally require restricted access and special reclamation provisions, such as topographic contouring, special seeding, and hydromulching (USDI, BLM, 1981a). Because of less restrictive requirements, pre-FLPMA leases may be more economical to explore and develop than post-FLPMA.

Leases producing oil or gas prior to their original expiration date or those that are part of a unitized field would continue. Undeveloped leases would terminate on their expiration dates (usually 10 years from the date of issuance). Wilderness designation would not affect the termination of existing leases.

Out of 42,140 acres in the WSA, 8,160 acres have been designated as Category 3 (no surface occupancy) for oil and gas leasing. The 320-acre Crystal Peak area is included in the Category 3 acreage. Of the remaining acreage, 9,120 acres are Category 4 (closed to leasing) and 24,860 acres are Category 1 (standard stipulations). No exploration or production of oil and gas resources has occurred in the WSA. None of the WSA has been leased for geothermal resources and there are no market areas for geothermal energy in the vicinity of the WSA.

#### LOCATABLE MINERALS

There are approximately 62 mining claims (1,235 acres) within the WSA, 835 acres of which are within the vicinity of Crystal Peak.

No known commercial deposits for locatable minerals occur within the WSA, with the possible exception of clay and silica deposits on the north end of the WSA near Crystal Peak. These deposits require additional geochemical analysis to determine whether they are, in fact, a locatable mineral.

No minerals have been produced from the WSA. The favorability for the occurrence of gold, copper, silver, lead, and zinc varies from low on the northern 66 percent of the WSA to low to medium on the southern 33 percent of the WSA. Favorability for the occurrence of uranium is low. Table 4 lists the favorability ratings and approximate quantities of locatable minerals.

#### SALABLE MINERALS

Large deposits of limestones that may be suitable for commercial development are found in the WSA. However, there are significant deposits outside the WSA, and no demand is foreseen for these materials.

### Wildlife

Although a wide variety of wildlife is found in the Wah Wah Mountains (50 species of mammals, 100 species of birds, 14 species of reptiles, and one species of amphibians), no one species could be considered abundant. The WSA is considered yearlong deer range with approximately 20 deer on a yearlong basis and an additional 20 migrating into the area during the winter. About 13,000 acres of the WSA are pronghorn antelope habitat with about 10 antelope in the WSA yearlong. About 53,000 acres are yearlong chukar habitat.

There are two endangered (bald eagle and peregrine falcon) species that could inhabit the WSA. Although there is no Federally designated critical habitat in the WSA, other raptors, including the sensitive golden eagle, inhabit the area yearround. Most of the WSA is crucial yearlong habitat for golden eagles.

Approximately 6,500 acres in the WSA are managed under the West Desert Habitat Management Plan (HMP) (USDI, BLM, 1980b). This plan calls for the construction of one wildlife guzzler. There are no existing or proposed vegetation manipulation projects within the WSA.

### Forest Resources

The WSA contains approximately 31,566 acres of pinyon-juniper type vegetation. Within this general type there are 470 acres of commercial timber. The total volumes of potential forest products within the WSA are given in Table 5.

No authorized commercial use has been made of the forest products in the WSA and none have been proposed. There has been some unauthorized cutting of Christmas trees. Noncommercial

use has been limited to firewood cutting and pinenut gathering. It is estimated that approximately 100 cords of firewood and an unknown but small amount of pinenuts are harvested annually.

**TABLE 5**
**Total Volumes of Forest Products**

| Product | Amount |
|---|---|
| Firewood | 50,500 cords |
| Fenceposts | 5,000 each |
| Timber | 14 MBF[1] |
| Pinenuts | 18,000 pounds |

Source: USDI, BLM, 1973.
[1]One thousand board-feet.

## Livestock and Wild Horses/Burros

There are portions of six grazing allotments within the WSA that are used by nine permittees. Available forage is estimated at 916 AUMs for cattle and 2,100 AUMs for sheep. Season of use is generally October 15 to May 15. Refer to Table 6 for specific livestock grazing use information. Existing ways (totaling 5 miles) that penetrate the WSA are used by the permittees as access for hauling salt and water and for sheep camps. Ways are also used by the BLM for allotment management. A 1-mile fence is the only existing range improvement. No additional range improvements are proposed.

There are no wild horses or burros inhabiting this WSA.

**TABLE 6**
**Livestock Grazing Use Data**

| | Allotments | | | | | |
|---|---|---|---|---|---|---|
| | Brecks Knoll | Pine Valley | Crystal Peak | Voorhees | Wah Wah Lawson Cove | Hardpan |
| Permittees | 2 | 1 | 3 | 1 | 1 | 1 |
| Period of Use | 11/1-5/15 | 10/15-5/15 | 10/15-4/30 | 10/15-4/30 | 10/15-4/30 | 10/15-4/30 |
| Percent of Allotment Area in WSA | 4 | 26 | 16 | 13 | 5 | 23 |
| Percent of Allotment's AUMs in WSA | 6 | 15 | 15 | 8 | 6 | 27 |
| Estimated Available Livestock Forage in WSA | 366 | 550 | 734 | 247 | 559 | 563 |

Source: USDI, BLM, 1973.

## Visual Resources

The Wah Wah Mountains are one of the most remote, untouched mountain ranges in the West Desert. The west face of the range is comprised of sheer cliffs displaying grey tones of limestone strata. A high plateau above the cliffs and the adjoining canyons contains desert shrub, pinyon-juniper, aspen, ponderosa pine, white fir, and bristlecone pine. The surrounding benchlands contain light-tan desert shrub dotted with dark-green juniper trees. Crystal Peak, a mountain of white ash-flow tuff, lies at the northern end of the WSA. This highly unusual formation, which can be seen for 50 miles, is a Millard County landmark. Dark-green pinyon-juniper and a few ponderosa pine are scattered around the base of the peak. Crystal Peak, consisting of 42 acres (less than 1 percent of the WSA), is rated as exceptional (Class A) scenery due to its distinctive character. Some 77 percent (32,406 acres) of the Wah Wah Mountains WSA is rated as high to moderate (Class B) scenery. This area contains a wide variety of vegetation and rugged, interesting topographic features with numerous color combinations. Twenty-three percent (9,692 acres) of the area is rated as average (Class C) scenery due to the muted color tones in vegetation and only moderate variety in topography, which are common to the region. No VRM classes have been established on the Wah Wah Mountains. (Appendix 7 explains BLM's VRM rating system.)

## Cultural Resources

Two archaeological sites have been recorded in the WSA. Both of these sites are near Crystal Peak in the northern portion of the WSA. The potential for additional sites is relatively high, but site density is expected to be low.

There are no recorded historic sites, National Register sites, or National Register nominees within the WSA.

## Recreation

There are presently an estimated 155 visitor days attributed to recreational activities in the WSA. Current visitor day use is as follows: 25 for fossil collecting; 32 for geologic sightseeing; and 98 for botanical sightseeing. Most are attributed to hiking in conjunction with botanical and geological sightseeing.

The quality of 15 recreational opportunities was evaluated. Fourteen recreational opportunities

are present in varying degrees. A summary of selected activities follows. The WSA's sheer limestone cliffs and Crystal Peak provide very good geologic sightseeing opportunities. Opportunities for backpacking, dayhiking, nature study, and photography are good. Factors contributing to these opportunities include: the length of the range (19 miles) and the variety of terrain and vegetative types; Crystal Peak, Parsons Cove, and Lawson Cove Canyon, that provide interesting dayhiking opportunities; large bristlecone, ponderosa pine, and numerous eagles, hawks, and other wildlife, that provide opportunities for nature study and photography.

Opportunities for camping, hunting, horseback riding, rock climbing, rock hounding, skiing, cultural sightseeing, scenic sightseeing, and wildlife sightseeing are average to poor due to a lack of water, steep rugged terrain, etc.

Steep topography generally restricts ORV use to 5 miles of ways in two locations. Vehicular activity is not considered an end in itself but occurs in conjunction with other activities.

## Wilderness Values

### SIZE

This WSA contains approximately 42,140 acres. It is approximately 20 miles long and 5 miles wide at its widest point. Approximately 35,000 acres are in Millard County (Richfield BLM District) and approximately 7,140 acres are in Beaver County (Cedar City BLM District).

### NATURALNESS

Overall, the WSA is natural, with the imprints of man substantially unnoticeable. There are approximately 5 miles of ways that penetrate WSA boundaries. These were judged to be substantially unnoticeable during the *BLM Intensive Wilderness Inventory*.

### SOLITUDE

The size and configuration of the WSA significantly contribute to the opportunities for solitude. The WSA is large enough to promote a feeling of vastness, and some of the canyons create enclosures (topographic screening) that enhance opportunities for seclusion. The vertical separation between ridgetops and valley bottoms provided by the precipitous cliffs of both the east and west sides of the Wah Wah Mountains add to the opportunities for avoiding the sights and sounds of others.

Vegetation complements the topography, especially in the higher elevations. Stands of aspen, ponderosa pine, white fir, and bristlecone pine create overhead canopies and provide screening that enhance seclusion in all seasons. There are no significant adverse sights and sounds outside the WSA that detract from the quality of solitude in the WSA. However, the Wah Wah Mountains WSA is within the South Range of the U.S. Air Force's Utah Test and Training Range. The South Range runs approximately north to south from the southern boundary of the Bonneville Salt Flats to the San Francisco Mountains and east to west from the Sheeprock Mountains to 17 miles within Nevada.

The is one the Nation's busiest military air spaces. There are 15,000 aircraft including all types of tactical fighters and bombers in the area. There are 100 to 150 (conservative estimate) aircraft flying over the area per day 6 days per week. Flights occur as low as 100 feet above the ground surface. Speeds are subsonic except in the very northern portion of the test range in the area around Ibapah, where supersonic speeds are also reached. Heaviest use areas are in the northern part of the test range (Davies, 1985). The Wah Wah Mountains WSA is in the southern portion of the range and is less affected by air traffic. However, aircraft occasionally fly directly over the WSA, and these overflights can be an annoyance to visitors seeking solitude. Military overflights cause occasional offsite intrusions (sight and sound) that detract from but generally do not eliminate the overall opportunities for solitude in the WSA.

Vistas in all directions from the center ridgeline of the WSA also contribute to a feeling of vastness and being alone.

Approximately 40,940 acres in the WSA provide outstanding opportunities and meet the standards for solitude. Areas on the lower benchlands west of Crystal Peak, approximately 1,200 acres of the WSA, do not have outstanding opportunities for solitude due to little variation in topography and low desert-shrub type vegetation. These areas are primarily found on the lower benchlands in the northwest part of the WSA.

### PRIMITIVE AND UNCONFINED RECREATION

As discussed in the Recreation section above, the WSA has good opportunities for backpacking, dayhiking, nature study, and photography. Opportunities for geologic sightseeing are very good due to the presence of Crystal Peak and the sheer blockfault cliffs on the west side. Other

primitive recreational opportunities exist in the WSA as well, but are average or less in quality.

Overall, 40,940 acres provide outstanding opportunities for primitive, unconfined recreation. Approximately 1,200 acres west of Crystal Peak have opportunities for primitive, unconfined recreation that are less than outstanding.

### SPECIAL FEATURES

The special features identified within the WSA are Crystal Peak and a stand of bristlecone pine. Crystal Peak (42 acres) is the thickest and most prominent example of Tunnel Springs tuff in western Utah. This white mountain is visible from distances of 50 miles or more. The bristlecone pine, rare in the region, are exceptionally large. Many reach heights of 50 feet or more in sheltered areas east of the center ridgeline. They cover some 190 acres in the central part of the WSA.

## Land Uses Plans and Controls

There are no private in-holdings, private subsurface rights, or rights-of-way within the WSA. There are six State sections within the WSA and an additional seven sections immediately adjacent to the WSA boundary; all are under grazing and oil/gas leases. No activities are occurring on these lands at present. The State of Utah policy is to maximize economic return from State school sections.

Public lands in the WSA are managed under the BLM Wah Wah Mountains MFP (USDI, BLM, 1973) which allows multiple use as described for the No Action Alternative. This plan will be replaced by the Warm Springs RMP scheduled for completion in 1987.

The *Millard County Master Plan* (Paul Nelson Associates, Inc., 1983) does not specifically address wilderness. The county believes that Federal lands in the county should be generally utilized to their greatest economic potential under a multiple-use concept. The *Beaver County Master Plan* (Mountain Area Planners, 1970) zones the Wah Wah Mountains as "range and forest" and "multiple use," respectively. These zones are recommended for minimum habitation. The Plans do not specifically address wilderness but the counties believe that Federal and State lands should be utilized to their greatest economic potential.

## Socioeconomics

The Wah Wah Mountains WSA is located primarily (35,000 acres) in Millard County, Utah with a small portion (7,140 acres) in Beaver County. The closest community is Milford, in Beaver County approximately 35 miles east of the WSA. Delta and Fillmore in Millard County, about 80 miles north and northeast of the WSA, as well as Milford are the main gateways and service areas for visitors to the WSA.

### DEMOGRAPHICS

Census figures (U.S. Department of Commerce [USDC], Bureau of the Census, 1981) for 1980 show a Millard County population of 8,970 and Beaver County at 4,378 (increases of 28.4 and 15.2 percent, respectively, since 1970). A major portion of the Millard County population lives in Delta (1,930 persons) and Fillmore (2,083 persons). Beaver (1,792 persons) is the largest community in Beaver County. The construction of the Intermountain Power Project (IPP) will add significantly to the populations of Millard County and, to a lesser degree, Beaver County.

### EMPLOYMENT

Both Millard and Beaver Counties have similar economic structures. The government sector (Federal, State, and local) is the most important in terms of employment in both counties. Farm employment makes up about 26 percent of the total in Millard County and 19 percent in Beaver County. Tables 7 and 8 present 1982 nonfarm employment figures for Millard and Beaver Counties.

**TABLE 7**

**1982 Nonfarm Employment**
**Millard County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Mining | 133 | 6.1 |
| Construction | 77 | 3.6 |
| Manufacturing | 233 | 10.6 |
| Transport, Communication and Public Utilities | 192 | 8.8 |
| Trade | 577 | 26.3 |
| Finance, Insurance, and Real Estate | 73 | 3.3 |
| Services | 167 | 7.6 |
| Government[1] | 739 | 33.7 |
| Total Employment | 2,191 | 100.0 |

Source: Utah Department of Employment Security, 1982.

[1]Total Federal, State, and local.

**TABLE 8**
**1982 Employment**
**Beaver County, Utah**

| Industrial Sector | Number Employed | Percent of Total Employment |
|---|---|---|
| Total Employment | 1,630 | 100 |
| Proprietors | 450 | 27.6 |
| Total Wage and Salary Employment | 1,180 | 72.4 |
| Farm | 107 | 6.2 |
| Nonfarm | 1,079 | 66.2 |
| Private | 710 | 43.5 |
| Mining | 22 | 1.3 |
| Construction | 29 | 1.8 |
| Manfacturing | 37 | 2.3 |
| Transportation and Public Utilities | (D) | (D) |
| Trade | 293 | 18.0 |
| Finance, Insurance, and Real Estate | (D) | (D) |
| Government[1] | 369 | 34.7 |

Sources: USDC, Bureau of Economic Analysis, 1984.

[1] Total Federal, State and Local

(D) Not shown to avoid disclosure of confidential information.

## INCOME AND REVENUES

Income and earnings for Millard and Beaver Counties are summarized on Table 9. Income in both counties is about proportionate to employment. The construction of IPP will continue to have an impact on both employment and income in Millard, and to a lesser extent, in Beaver County.

**TABLE 9**
**1982 Personal Income and Earnings**
**Millard and Beaver Counties, Utah**

| Type/Source | Millard County | | Beaver County | |
|---|---|---|---|---|
| | Earnings Income (in $1,000) | Growth Rate 1975-80 (percent) | Earnings Income (in $1,000) | Growth Rate 1975-80 (percent) |
| Total Labor and Proprietors Income (Earnings) | 40,602 | 82.7 | 16,902 | 18.5 |
| Total Labor and Proprietors Income by Industry Source | | | | |
| Farm | 5,717 | 9.0 | 964 | -9.0 |
| Nonfarm | 34,885 | 105.0 | 15,938 | 20.7 |
| Private | 25,315 | 110.8 | 11,429 | 11.1 |
| Agricultural Service and Other | 609 | -6.9 | 102 | 10.9 |
| Mining | 3,192 | 236.4 | 436 | -1.4 |
| Construction | 5,889 | 668.7 | 1,211 | 0.2 |
| Manufacturing | 2,454 | 69.0 | 522 | -46.9 |
| Transportation and Public Utilities | 3,802 | 69.8 | (D) | (D) |
| Wholesale Trade | 1,531 | 40.9 | 304 | (D) |
| Retail Trade | 4,165 | 54.2 | 2,617 | 29.0 |
| Finance, Insurance and Real Estate | 1,368 | 124.6 | 476 | -11.4 |
| Services | 2,305 | 48.6 | (D) | (D) |
| Government[1] | 9,570 | 91.0 | 4,509 | 54.7 |

Sources: USDC, Bureau of Economic Analysis, 1984.

(D) Not shown to avoid disclosure of confidential information for items $50,000 or less. Data are included in totals.

[1] Total Federal, State, and local.

Economic-related activities in the WSA include mineral exploration, livestock production, woodland production, and recreation. Table 10 summarizes local income and Federal revenues from the WSA. Appendix 9 identifies the multipliers used to estimate income and revenues.

**TABLE 10**
**Local Sales and Federal Revenues**

| Source | Annual Local Sales[1] | Annual Federal Revenues |
|---|---|---|
| Oil and Gas Leases | None | $112,700 |
| Mining Claim Assessment | Less than $6,200 | None |
| Livestock Grazing | $60,320 | $4,222.40 |
| Woodland Products | $7,500 | None (No commercial permits) |
| Recreational Use | Less than $635.50 | None (No commercial permits) |
| Total | Less than $74,655.50 | Up to $116,922.40 |

Sources: BLM File Data; Appendix 9.

[1] Local sales represent money potentially spent. They do not account for the total local income that would be generated by these expenditures.

The WSA has 62 mining claims. Regulations require a $100 annual expenditure per claim for labor and improvements, an undetermined part of which is spent in the local economy. Not all of the claims are current in assessment.

No oil and gas or mineral production has occurred in the WSA. Therefore, mineral and energy resource production from the WSA has not contributed to local employment or income.

Nine livestock operators have a total grazing privilege of 3,016 AUMs within the WSA. If all this forage were utilized, it would account for $60,320 of livestock sales and $15,080 of ranchers' returns to labor and investment.

It is estimated that about 100 cords of firewood have been harvested annually from the WSA for private use. The sales value of the wood is about $7,500. In addition, a small amount of pinenuts are gathered each year. These harvests are small and insignificant to the local economy and only of minor significance to those involved in the harvest.

The WSA's recreational use and related local expenditures are low and insignificant to both the local economy and individual businesses. The actual amount of income generated locally from recreational use in the WSA is unknown. However, an approximate range of expenditures can

be deduced from Dalton (1982). This study indicates that statewide average expenditures per recreational visitor day for all types of recreation in Utah are approximately $4.10. The recreational use for the Wah Wah Mountains WSA is estimated as about 155 visitor days per year. Only a portion of the expenditures for recreational use of the WSA contribute to the local economy of Millard and Beaver Counties.

The WSA generates Federal revenues from mineral leases and livestock sources (refer to Table 10).

Oil and gas leases in the WSA cover approximately 37,590 acres. At $3 per acre, lease rental fees generate up to $112,770 of Federal revenues annually. Half of these monies are allocated to the State, which then reallocates these revenues to various funds, the majority of which are related to energy development and mitigation of local impacts of energy and mineral development.

Average actual livestock use and, therefore, Federal revenues generated from grazing in the WSA are unknown; however, the permittees in the WSA can use up to 3,016 AUMs per year. Based on a $1.40 per AUM grazing fee, the WSA can potentially generate $4,222.40 of grazing fee revenues annually, 50 percent of which would be allocated back to the local BLM district for the construction of rangeland improvements.

No commercial permits for woodland harvest or recreation have been issued for the WSA; therefore, no Federal revenues are generated from these resources.

# ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

## Analysis Assumptions and Guidelines for All Alternatives

1. The alternatives would be carried out as cited in the Description of the Alternatives section.

2. Future users in the WSA would meet requirements for all applicable Federal, State, and local permits.

3. Designation of an area as wilderness would not result in impacts due to direct disturbance of resources. Any direct disturbance of resources under wilderness designation would result from use of prior rights that must be recognized by BLM. Such disturbance could occur with or without wilderness designation and is assumed to occur at one time.

4. The impacts of wilderness designation would result from (1) protection of certain resources; (2) denial of the opportunity to develop certain resources; or (3) restrictions placed on or changes in allowable management practices and land uses.

5. Estimates of in-place mineral resources are given based on a mineral resource evaluation of BLM WSAs by SAI (1982). These estimates were based on literature studies and known mining activities in the vicinity of the WSAs. The analysis presented in this section identifies the estimated amount of potentially recoverable mineral resources and then, using BLM's field experience and judgment, qualifies the probability of future development based on terrain, transportation, and economic factors. Appendix 6 records the methodology for estimation of potentially recoverable mineral resources.

6. Once designated, management of an area as wilderness would continue in perpetuity.

## No Action Alternative

The major changes that could occur in the area would be related to oil and gas, geothermal, and locatable mineral development. The area would be open to resource use and development (note, however, that 8,160 acres would be leased under no surface occupancy stipulations and 9,120 acres would be closed to leasing) without controls for wilderness protection. The degree of future development is unknown but would probably be low due to the WSA's rough terrain and low resource potential. The following is a worst-case analysis, based on the assumption that minerals would be developed sometime in the future and would result in the following disturbance: oil and gas, 160 acres; geothermal, 6 acres; beryllium, 15 acres; and lead/zinc/tungsten, 15 acres. (Appendix 10 lists surface disturbance assumptions and estimates.)

### AIR QUALITY

The WSA would continue to be managed by the State of Utah as a PSD Class II area. Operation of IPP could result in degradation of air quality up to the Class II limitation. Depending on meteorological conditions a brown haze may be visible in the Sevier Desert east of the WSA (Bowers, 1979).

Disturbance of 196 acres would result in only minor temporary increases in fugitive dust emissions.

## GEOLOGY

No impacts to geology are expected because surface disturbances associated with locatable minerals (i.e., beryllium, lead, zinc, and tungsten), oil and gas, and geothermal exploration and development activities would probably not exceed 196 acres. This would not significantly affect geology.

## SOILS

It is estimated that up to 196 acres of soil could be disturbed by mineral exploration and development. Assuming that all disturbance would occur in areas with moderate erosion class (worst-case analysis) and that erosion condition would increase one class, soil loss on the 196 acres would increase from 255 cubic yards/year to 529 cubic yards/year. Soil loss would decrease as reclamation occurred. However, the time required for complete reclamation cannot be determined.

Therefore, under this alternative, maximum annual soil loss in the WSA would increase by approximately 274 cubic yards (1.0 percent) over current annual soil loss to approximately 26,958 cubic yards per year. This is a small increase and the effects would likely be imperceptible.

## VEGETATION

Although protective measures would be taken to avoid disturbance of the sensitive plant species *Penstemon nanus* and *Sphaeralcea caespitosa* some individual plants could be inadvertently lost as a result of mineral exploration and development. Before authorizing surface-disturbing activities (196 acres potential) the BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS as required by BLM policy. If any threatened or endangered species could be affected, BLM would initiate formal Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these plants, it can reasonably be concluded that the viability of threatened, endangered, or sensitive species would be preserved under the No Action Alternative.

The maximum anticipated disturbance would be no more than 196 acres. This would not result in a major change in any vegetation type.

## WATER RESOURCES

Since precipitation is low and all streams are ephemeral within the WSA, no significant sedimentation or change in total dissolved solids (TDS) is expected to occur from the 274 cubic yard increase in annual soil loss due to surface disturbance. Opportunities for maintenance or additional improvements could occur. Only one guzzler is proposed for wildlife in the MFP for the area.

Mineral exploration and development in the area would be generally confined at or near the surface or with widely spaced wells, and would not significantly change ground water quantity or quality.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

The potential for up to 10 million barrels of oil in-place (less than 3 million estimated recoverable) and up to 60 billion cubic feet of natural gas (less than 18 billion estimated recoverable) exists within the WSA. These oil and gas resources could be explored and developed, subject to Category 1 (standard) stipulations, on 24,860 acres. However, 9,120 acres would be closed to leasing and, therefore, would not be subject to exploration and development. Leases on approximately 4,570 acres would expire and would not be re-issued. Exploration and development would also be highly restricted on the 8,160 acres that would be managed as Category 3 (no surface occupancy). Approximately 160 acres of surface disturbance could take place if exploration and development were to occur on the acreage available. However, due to the small size of possible oil and gas deposits, production is unlikely to occur under this alternative.

The low gradient geothermal resource could be recovered under this alternative. As much as 6 acres could be disturbed from exploration and development. However, because there is no market for this resource in the area, it is unlikely that it would be developed.

### Locatable Minerals

Locatable mineral development could occur within the WSA. The entire WSA would remain open to mining claim location. The potential deposit of up to 10 tons of beryllium, up to 50,000 tons of lead/zinc, and up to 500 tons of tungsten could be developed. Approximately 30 acres could be disturbed due to exploration and development of these locatable mineral resources. However, the likelihood of development is thought to be minimal because of economic considerations (e.g., transportation, low potential, etc.).

### Salable Minerals

Although the opportunity would exist under this alternative to recover limestone deposits, it is

unlikely they would ever be developed commercially due to the remoteness of the area and the multitude of deposits outside the WSA.

### WILDLIFE

Under this alternative, the planned wildlife guzzler could be constructed, increasing availability of water for wildlife use. Although none are currently planned, other developments benefiting wildlife would be allowable without wilderness considerations. However, disturbance of an estimated 196 acres (0.45 percent of the WSA) through mineral and energy development and exploration would disrupt wildlife in the disturbed areas. Mobile animals would leave the disturbed areas for the lifetime of these activities. Less mobile wildlife would either perish or coexist with these disturbances at smaller and less viable population levels. Overall, wildlife would probably not be greatly affected by disturbance of less than 1 percent of the WSA.

Peregrine falcon and bald eagle (if any are in the WSA) and golden eagle would also avoid the disturbed areas. Before authorizing surface-disturbing activities, BLM would conduct site-specific clearances of the potentially disturbed areas and informally consult with the FWS, as required by BLM policy. If any threatened or endangered species could be affected, BLM would initiate Section 7 consultation with the FWS under provisions of the Endangered Species Act. Appropriate mitigating measures would be applied. Because necessary measures would be taken to protect these birds, if found, it can reasonably be concluded that the viability of populations of threatened, endangered, or sensitive species would be preserved under the No Action Alternative.

### FOREST RESOURCES

Woodland products could be harvested under this alternative. However, the remoteness of this resource and availability of similar resources closer to population centers would continue to severely limit utilization. Annual harvest will likely continue at about 100 cords of firewood and a small amount of pinenuts.

### LIVESTOCK

Domestic livestock grazing use of 3,016 AUMs would continue as authorized for nine permittees in the Wah Wah Mountains MFP. There would be no changes in or effect on the current livestock use and management under this alternative. Additional roads or other facilities for livestock handling could be proposed and developed in the future without regard for wilderness values. No management facilities are proposed, and no changes in livestock management techniques are expected.

### VISUAL RESOURCES

Under this alternative, visual quality in the WSA would be protected by limitations placed on potential surface-disturbing activities (i.e., 17,280 acres would be closed to oil and gas leasing or managed as no surface occupancy).

However, under this alternative 196 acres of mineral-related exploration and development activities are possible. Even though mitigative measures would be applied to minimize visual contrast created by intrusions, visual quality would be degraded in localized areas during the period of activity. Even after rehabilitation, some permanent localized degradation would be expected. If roads, vehicular ways, and drill pads were located throughout the area (worst-case analysis), visual quality could be significantly reduced in the WSA as a whole.

### CULTURAL RESOURCES

A worst-case analysis indicates that disturbance of 196 acres by mineral exploration and development under this alternative could destroy cultural sites. However, inventories for the purposes of site recordation and mitigation of impacts would take place prior to any surface disturbance and would lessen impacts. There are no National Register sites in the WSA. The overall effect on cultural resources would be low due to the limited amount of cultural resources in the area and to mitigating measures that would be taken prior to surface-disturbing activities. Vandalism of sites (not currently a problem) would be expected to increase with construction of roads for mineral exploration and in proportion to the general population increase.

### RECREATION

The quality of a user's primitive recreational experience would be reduced by surface-disturbing activities. Under this alternative mineral-related exploration and development are possible on 196 acres. If roads, vehicular ways, and drill pads were located throughout the WSA (worst-case analysis), primitive recreational opportunities could be lost in the area altogether. However, about 5 miles of existing vehicular ways would be available for recreational access. Also, roads and ways created for energy and mineral exploration and development would improve recreational access into the area.

The future trends in recreational use of the WSA are unknown. However, based on a review of several projections (Utah Outdoor Recreation

Agency, 1980; Utah Office of Planning and Budget, 1984; Jungst, 1978; and Hof and Kaiser, 1981) it is estimated that outdoor recreation in Utah will increase at about 2 percent per year over the next 20 years. At this rate overall recreational use is expected to increase from 155 current visitor days per year to 230 visitor days at the end of 20 years.

Regional population increases due to construction of IPP near Delta, Utah, could lead to increases in recreation greater than the projected baseline rate.

### WILDERNESS VALUES

Under this alternative, wilderness values in 41 percent of the WSA would be protected by limitations placed on potential surface-disturbing activities (i.e., 17,280 acres would be closed to oil and gas leasing or managed as no surface occupancy).

However, under this alternative 196 acres of mineral exploration and development are possible. The related surface disturbance would result in a significant loss of naturalness, solitude, and outstanding opportunities for primitive, unconfined recreation throughout the WSA as a whole if roads, vehicular ways, and drill pads were located throughout the area. The potential for mineral development and related disturbance, however, is low in this WSA.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

### LAND USE PLANS AND CONTROLS

This alternative would generally be consistent with the *Beaver and Millard County Master Plans* which favor multiple use and development of the economic potential of public lands. The oil and gas closure on 9,120 acres would not conform to the counties' concept of multiple use. This alternative is based on implementation of the current BLM Wah Wah Mountains MFP and the forthcoming Warm Springs RMP and, therefore, would be in conformance with these plans. The No Action Alternative would not be totally consistent with State of Utah plans and policies because restrictions on oil and gas leasing could reduce economic return.

### SOCIOECONOMICS

Under this alternative, no changes are expected in existing patterns and trends of population, employment, and local income distributions, even with the inclusion of IPP. The Utah Office of the State Planning Coordinator (1980) projects that the government sectors of both Beaver and Millard Counties should not expand greatly beyond their current size, while the retail trade, manufacturing, and services sectors will continue to grow at a stable rate through the year 2,000.

There would not be a loss of local employment or income as a result of this alternative. The existing ability to explore and develop mineral resources would remain approximately as at present. However, approximately 4,570 acres of existing oil and gas leases would be phased out and any potential local employment or income related to these leases would be lost. A portion of the $100 per year assessment fee required for each mining claim would reach the local economy. The probability of economic development of minerals within the WSA is low.

There would be no livestock-related economic losses because the existing grazing use (3,016 AUMs) and ability to maintain, replace, and build new range improvements would remain as at present. The forage use in the allotment would continue to produce $60,320 annually in livestock sales and $15,080 of ranchers' return to labor and investment.

As discussed in the Recreation section, recreational use and, therefore, recreation-related local expenditures, could increase at a rate of 2 percent per year over the next 20 years (49-percent increase over 20 years). Recreational use in the area is estimated to increase by only 75 visitor days per year over the next 20 years, and overall recreation-related expenditures average $4.10 per visitor day, for a total increase of $307.50. Since only a portion of this would contribute to the local economy, recreation-related expenditures attributable to the WSA would not be significant to the Beaver and Millard County economies. Local use of 100 cords of firewood would continue at a value of approximately $7,500 per year.

Federal and State revenues would be reduced slightly by this alternative. There are 4,570 acres in the WSA currently leased for oil and gas that would expire and would not be renewed. At up to $3 per acre, up to $13,710 per year in Federal lease fees would be lost. Half of these lost fees are presently allocated to the state, a portion of which could reach the local economy. Collection of livestock grazing fees ($4,222.40 per year at $1.40 per AUM) would continue. About 50 percent of the revenues would continue to be returned to the local BLM office for use in range improvement projects.

## All Wilderness Alternative (42,140 Acres)

As cited in the Description of the Alternatives

section, the major changes that could occur in the 42,140-acre area would be related to its withdrawal from mineral location and closure to new mineral leasing and sale. The entire area would be placed in leasing Category 4 (closed to leasing). About 5 miles of existing vehicular ways in the WSA would be closed to vehicular use except for approvals by BLM as noted in the Description of the Alternatives section. The WSA would be managed under VRM Class I.

For the following analysis it is assumed that the existing mining claims would eventually be explored and developed, causing an estimated 30 acres of disturbance within the WSA. It is also assumed that existing oil and gas leases would expire before production of commercial quantities, and that oil and gas leases would not be renewed or future leasing of oil and gas or geothermal leases allowed. Appendix 10 lists surface disturbance assumptions and estimates for the WSA. Because potentially disturbed areas would be smaller than under the No Action Alternative (30 vs. 196 acres), the impacts from development and surface disturbance on air quality, geology, soils, vegetation, water, and forest resources would be insignificant, as described for the No Action Alternative, and are not discussed below. Wilderness designation would provide additional protection to these resources. Other effects on these resources due to changes in management are analyzed below.

## MINERAL AND ENERGY RESOURCES

### Leasable Minerals

Although almost the entire WSA is under oil and gas lease (4,550 acres are unleased but are under lease application), no exploration or development of oil and gas is presently occurring.

Existing leases could be developed subject to the stipulations issued at the time of leasing. All leases are post-FLPMA and, therefore, development could occur only if it would not impair wilderness suitability. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be re-issued.

Exploration for and development of a potential resource of less than 10 million barrels of oil and less than 60 billion cubic feet of natural gas in-place (with 3 million barrels of oil and 18 billion cubic feet of natural gas considered recoverable) would be foregone under this alternative. However, due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood of exploration and development activities, it is concluded that this alternative would not result in a significant loss of potential oil and gas recovery.

The low gradient geothermal resource could not be recovered under this alternative. However, there is no market for this resource in this vicinity, and it is unlikely that it would ever be produced even without wilderness designation.

### Locatable Minerals

Approximately 1,235 acres are under mining claim within the WSA. Development work, extraction, and patenting would be allowed to continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines with consideration given to wilderness values. It is estimated that, if minerals are located prior to wilderness designation, up to 30 acres could be disturbed due to exploration and development of locatable mineral resources. The worst-case impact to minerals would occur if the potentially recoverable minerals are not within mining claims filed prior to designation. In that case the potential for recovery of up to 10 tons of beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten would be foregone. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981).

Because production of these metals is not currently occurring and because economic considerations (e.g., transportation, low potential, etc.) are unfavorable, it is unlikely that development would occur. Therefore, this alternative would not result in a significant loss of economically recoverable locatable mineral resources.

### Salable Minerals

Under this alternative the opportunity to recover limestone deposits within the WSA would be foregone. However, it is unlikely they would ever be produced commercially even without wilderness designation due to the remoteness of the area and the multitude of deposits outside the WSA.

## WILDLIFE

Under this alternative, the planned wildlife guzzler could be constructed as long as it is designed to meet wilderness protection criteria (refer to Appendix 1). The guzzler would increase the availability of water for wildlife use.

This alternative would benefit wildlife, including peregrine falcon and bald eagle (both endangered), through reduction of potential surface disturbance due to mineral development. However, disturbance of an estimated 30 acres that

could still occur from mineral exploration and development would cause mobile animals to leave the area of disturbance and less mobile animals to either perish or coexist at smaller and less viable population levels. Appropriate measures would be taken to protect peregrine falcon and bald eagle and other raptors prior to any surface-disturbing activity, and it can be assumed that no impact would occur to these species. It is unlikely that increased recreational use of the area due to wilderness designation would be large enough to negatively affect the birds.

### FOREST RESOURCES

Under this alternative, no woodland harvest would occur. Currently, there is no demand for commercial forest resources in the Wah Wah Mountains, and it is unlikely that the resource would be developed even without wilderness designation. The opportunity to harvest firewood for personal use in the area would be foregone, although nonmechanized harvesting of pine nuts could continue.

### LIVESTOCK

This alternative would not affect the level of livestock use (currently 916 cattle AUMs and 2,100 sheep AUMs in this WSA). The 1 mile of fence would continue to be maintained and no new livestock developments are proposed. Livestock permittees would not be allowed to access ways for purposes of hauling water and salt to sheep camps on a regular basis. Such restrictions would necessitate changes in livestock management and supervision as it is currently practiced in this WSA. The impact would be an inconvenience or hardship on affected permittees.

### VISUAL RESOURCES

A slight benefit would occur to the visual resources of the WSA because the VRM class would be established as Class I. Class I generally allows only natural ecological changes and, therefore, would reduce the potential for surface-disturbing activities to about 30 acres.

Although mitigating measures would be applied to reduce visual contrast created by 30 acres of mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation, some permanent localized degradation could be expected. If roads for development of valid mining claims (worst-case analysis) could not be denied, VRM Class I objectives might not be met on large portions of the WSA. Because the potential for development of mining claims is low, visual quality would probably not be reduced in the WSA as a whole.

### CULTURAL RESOURCES

The probability of finding additional sites in the WSA is low and there is little potential for increased vandalism to cultural resources due to increased recreational use of the WSA from wilderness designation. Also, protection afforded by reduction of surface-disturbing activities under wilderness management would outweigh any potential vandalism problems caused by recreational activity. The overall impact would be positive.

### RECREATION

Under this alternative, possible surface disturbance would be reduced from 196 acres to 30 acres, and primitive recreational opportunities would be recognized, managed, and preserved. If new roads were constructed for development of valid mining claims, the quality of primitive recreational opportunities would be reduced. Because the potential for mineral production is low and wilderness designation would reduce the potential for surface disturbance, the quality of the primitive recreational experience would likely be preserved throughout the area.

As discussed for the No Action Alternative, recreational use of the WSA is estimated to increase about 2 percent per year over the next 20 years in relation to population increases and current trends of recreational use. Increased population due to IPP and publicity of the WSA that would likely following wilderness designation could lead to an undetermined increase in primitive recreational use above the baseline rate. Management provided through a Wilderness Management Plan would attempt to control destructive increases in future recreation use, and the quality of the primitive recreation experience probably would not be negatively affected by the increased use. As recreation use increases commercial operations based on primitive recreational activities could apply for use of the WSA.

Except on existing ways, no vehicular use is occurring or is likely to occur due to topographic restraints. Closure of 5 miles of ways to motor vehicles would make recreation access to limited areas of the WSA more difficult. However, because of the nature of present recreational use (i.e., geologic and botanical sightseeing) little impact on the overall recreational use of the area would be expected from restrictions on vehicular access.

## WILDERNESS VALUES

No development of leases is foreseen under this alternative. The possible mineral-related surface disturbance would therefore be reduced from 196 acres to 30 acres for development of valid mining claims. Mitigation to protect wilderness values would be considered during mining claim development, but road construction and use of motorized equipment could be allowed for development of valid mining claims if there were no reasonable alternatives. Mineral-related disturbance, including access, would eliminate naturalness and the opportunities for solitude and primitive and unconfined recreation on the affected areas. Wilderness values could be reduced in the area as a whole in the unlikely event that roads were constructed throughout the WSA. However, because the potential for mineral production is low (there are only 1,235 acres of claims, 3 percent of the WSA) and because mitigation would be imposed to protect wilderness values, loss of these values under wilderness designation would be less likely than under the No Action Alternative.

Designation and management of all 42,140 acres as wilderness would, therefore, contribute to the preservation of the wilderness values of size and naturalness (42,140 acres) and outstanding opportunities for solitude and primitive and unconfined recreation (40,940 acres). The special features in this WSA (geologic and vegetation) would also be protected and preserved.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## LAND USE PLANS AND CONTROLS

This alternative is generally consistent with the multiple-use concept of the area as favored by the *Beaver and Millard County Master Plans* since most resource uses would continue, although under more restrictive conditions. However, this alternative would conflict with the counties' multiple-use concept in the area of minerals because restrictive conditions would be placed on mineral development, including the phasing out of existing leases and closure of the area to future mineral location and lease. Because State lands within the WSA would be exchanged for lands outside the WSA, wilderness designation would not conflict with the policy of the State of Utah to maximize economic returns.

The existing BLM Wah Wah Mountains MFP does not provide for wilderness designation. The forthcoming Warm Springs RMP will acknowledge the wilderness study but will not cover wilderness designation. Congressional designation of the WSA as wilderness would be an amendment to the applicable BLM land use plan.

## SOCIOECONOMICS

Overall there would be no significant changes in current trends of population, employment, and local income distribution.

Because of restrictions placed on the use of resources under wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource uses in the WSA (refer to Table 10) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the WSA. Precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by wilderness designation. However, any local income related to assessment of future mining claims would be lost.

Livestock use and ranchers' income would continue as at present with $60,320 annually of livestock sales and $15,080 of ranchers' return to labor and investment.

Closure of the WSA to harvest of forest products could result in loss of firewood harvest valued at $7,500 per year; however, other areas outside the WSA could be utilized to supply firewood.

Increased public awareness of the area resulting from designation could increase nonmotorized recreational use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide).

There could be losses of up to $112,700 per year in Federal fees currently provided by oil and gas leases in the WSA and up to $99,060 in oil and gas lease fees that would be possible under the No Action Alternative. In addition to these lease fees, any potential royalties from new lease production could be foregone. Livestock grazing fees would

continue to provide up to $4,220.40 annually in Federal revenues at $1.40 per AUM.

Recreation-related Federal revenues could increase if the demand for commercial outfitter services increases. There are presently no commercial outfitters using the WSA.

## Partial Wilderness Alternative (36,382 Acres)

## (Proposed Action)

The major activities that would occur in the designated portion of the WSA for this alternative are the same as described for the All Wilderness Alternative. For the nondesignated portion, management would be as described for the No Action Alternative. The specific actions that would take place within the 36,382-acre area designated as wilderness and the 5,758-acre nondesignated area are discussed in the Description of the Alternatives section.

It is assumed that in the designated area existing mining claims (1,155 acres) would eventually be explored and developed, causing an estimated 26 acres of disturbance. It is also assumed that existing oil and gas leases in the designated portion would expire before production of commercial quantities and that leases would not be renewed or future leasing allowed.

It is assumed that within the nondesignated area 4 acres would be disturbed sometime in the future due to locatable mineral exploration and development and 21 acres would be disturbed due to oil and gas and geothermal exploration and development. Overall, 51 acres of surface disturbance would occur within the WSA, 145 acres less than under the No Action Alternative and 21 acres more than with the All Wilderness Alternative. Appendix 10 lists the surface disturbance assumptions and estimates for the WSA.

Restrictions on management and development methods within the WSA would result in essentially the same impacts to vegetation, wildlife, forest, and cultural resources, and land use plans and controls as described for the All Wilderness Alternative. The following analysis describes only measurable differences.

### MINERAL AND ENERGY RESOURCES

#### Leaseable Minerals

The area that would be designated wilderness would be placed in Category 4 status with no new leasing. The entire 36,382-acre area is currently under post-FLPMA oil and gas lease and could be developed only if such development would not impair wilderness suitability. It is unlikely that existing leases will be developed or a showing of commercial quantities made prior to their expiration dates, and expired leases would not be reissued.

It cannot be determined how much of the existing potential resource of 10 million barrels of in-place oil and less than 60 billion cubic feet of natural gas falls within the area that would be designated as wilderness under this alternative. Of these amounts, 3 million barrels of oil and 18 billion cubic feet of natural gas are estimated recoverable. Assuming that the loss of potential resource recovery would be in direct proportion to the size of the area designated, exploration and development of a potential resource of up to 2.5 million barrels of oil and 16 billion cubic feet of natural gas could be foregone. This would allow recovery of .5 million more barrels of oil and 2 billion more cubic feet of natural gas than with the All Wilderness Alternative. The low gradient geothermal resource could be recovered on the 5,758-acre nondesignated area, although there is no market for the resource and it is unlikely it would be developed.

Due to the small size of the potential deposits, the low certainty that these exist, and the low likelihood for exploration and development activities, this alternative is not expected to result in any significant loss in recovery of leasable minerals.

#### Locatable Minerals

Approximately 1,155 acres of mining claims fall within the area that would be designated wilderness. Development work, extraction, and patenting could continue on valid claims after wilderness designation under unnecessary or undue degradation guidelines. After designation, all other lands (including claims not determined valid) would be closed to prospecting and development (USDI, BLM, 1981).

It cannot be determined how much of the potential deposits of up to 10 tons of beryllium, 50,000 tons of lead/zinc, and 500 tons of tungsten in the WSA fall within the area that would be designated as wilderness under this alternative. Assuming that the locatable minerals are evenly distributed in the WSA and that the mineral deposits were not included in mining claims filed before designation, the potential for recovery of 8.6 tons of beryllium, 43,000 tons of lead/zinc, and 430 tons of tungsten would be foregone. This alternative would, therefore, allow for recovery of 1.4 more tons of beryllium, 7,000 more tons of lead/zinc, and 70 tons more tungsten than the All Wilderness Alternative.

Because these metals are not being recovered at present within the WSA and because economic considerations (e.g., transportation, low potential, etc.) are unfavorable, it is unlikely that exploration or development would occur even if the area were not designated wilderness. Therefore, this alternative would not have a significant effect on the recovery of beryllium, lead/zinc, or tungsten.

**Salable Minerals**

Under this alternative the opportunity to recover limestone deposits would be foregone on 86 percent of the WSA. However, it is unlikely that this resource would be produced commercially even without partial wilderness designation because of the remoteness of the area and the multitude of deposits outside the WSA.

## WILDLIFE

Under the Partial Wilderness Alternative, wildlife would benefit due to the preservation of solitude and naturalness on 86 percent of the WSA. Appropriate measures would be taken to protect peregrine falcon, bald eagle, and other raptors prior to surface-disturbing activity and it can be assumed that no impact would occur to these species. Fifty-one acres of deer range habitat could still be subject to surface disturbance associated with potential energy and mineral exploration and development. This acreage represents less than 1 percent of the total habitat within the WSA and the overall effect on wildlife would be negligible.

Approximately 54 percent (7,020 acres) of the antelope habitat and all (5,300 acres) of the chukar partridge habitat in the WSA would be in the designated portion. The proposed wildlife guzzler would be in the nondesignated portion and could be developed for the benefit of wildlife without consideration of wilderness values.

## LIVESTOCK

The effect from designation of 36,382 acres of the WSA as wilderness on domestic livestock grazing would be essentially the same as with the All Wilderness Alternative. Of the 3,016 AUMs allocated, approximately 1,746 acres (58 percent) would be within the designated portion of the WSA and 1,270 within the nondesignated portion. The existing fence could continue to be maintained (.25 mile of the fence would be within the designated area). Development of future roads or other livestock management facilities (none are currently proposed) for use with 1,746 AUMs in the designated portion could be restricted to preserve wilderness values. Of the 5 miles of existing vehicular ways, only 1 mile is within the area that would be designated. This would reduce but not eliminate the potential for inconvenience or hardship to permittees who presently use the ways for hauling water and salt to manage sheep camps.

## VISUAL RESOURCES

Because total surface disturbance in the WSA could be as much as 51 acres under this alternative, as opposed to 196 acres under the No Action Alternative and 26 acres under the All Wilderness Alternative, the potential for impact on visual resources would be less than under the No Action and slightly more than under the All Wilderness Alternatives. Although mitigating measures would be applied to reduce visual contrast created by mineral-related surface disturbance, visual quality would be degraded and VRM Class I management objectives would not be met during the short term on disturbed areas. Even after rehabilitation some permanent localized degradation could be expected. If roads for development of valid mining claims were located throughout the WSA (worst-case analysis), VRM Class I objectives might not be met within the designated portion of the WSA. Because the potential for development of mining claims is low, the potential for visual quality to be reduced in the WSA as a whole is much less under this alternative than under the No Action Alternative.

## RECREATION

Impacts on recreational values and opportunities for the 36,382-acre area that would be designated as wilderness would be basically as described for the All Wilderness Alternative. The differences would be as follows: of the 5 miles of existing ways, 4 are in the area that would not be designated. Also, the potential for new road construction for mineral exploration and development would be greater under this alternative. This would allow for better recreational access into the Wah Wah Mountains, although it would also reduce the quality of the area's opportunities for primitive recreation.

## WILDERNESS VALUES

Impacts to wilderness values would be the same as under the All Wilderness Alternative on the 36,382 acres that would be designated wilderness. Wilderness designation would contribute to the preservation of the area's wilderness values. Under this alternative, the potential for surface-disturbing activities that could impair wilderness

values would be reduced through management under VRM Class I (which generally allows for only natural ecological change), through the ORV closure, and through closure of the area to future mineral leasing and location. Size, naturalness (all 36,382 meet the standard), outstanding opportunities for solitude (all 36,382 acres meet the standard) and primitive recreation (all 36,382 acres meet the standard), and special features (the best geologic features in the WSA including Crystal Peak) would be preserved. Although recreational use could increase (refer to Recreation section under the All Wilderness Alternative), use relative to the size of the area would be low. Therefore, no significant effect on solitude and primitive recreation values would be expected. There could be some loss of wilderness values due to allowable surface disturbance from mineral exploration activities on up to 26 acres.

In the 5,758-acre area that would not be designated, there would be as much as 25 acres of disturbance from mineral and energy exploration and development activities. Those activities would degrade wilderness values (naturalness on 5,758 acres and outstanding opportunities for solitude and recreation on 4,558 acres) from the commencement of activities through rehabilitation.

Assuming a worst-case analysis, the loss of these values could occur throughout the WSA as a whole if roads and vehicular ways were located throughout the WSA. However, the potential for mineral development and related disturbance is low in this WSA. The potential for the worst-case loss of wilderness values would be less under this alternative than under the No Action Alternative.

Overflights by military aircraft would continue to be an occasional annoyance that would detract from the opportunities for solitude in the WSA.

## SOCIOECONOMICS

With partial designation there would not be significant changes in current trends of population, employment, and local income distribution.

Because of restrictions places on the use of resources under partial wilderness designation there could be slight losses in local income and Federal revenues currently provided by resource use in the WSA (refer to Table 10) as well as loss of potential increases in income and Federal revenues that could occur under the No Action Alternative.

The potential for mineral development in the WSA is low (refer to the Mineral and Energy Resources section for a discussion of the WSA's mineral character). Valid existing oil and gas leases and mining claims could be developed but designation would preclude new leases and claims from being established in the 36,382-acre designated portion of the WSA. As with the All Wilderness Alternative, precluding exploration and development of minerals would not alter existing economic conditions, but could alter future economic conditions from what they would be with mineral development under the No Action Alternative. Because the potential for mineral development is low, it is estimated that potential mineral-related local income would not be significantly reduced by the Partial Wilderness Alternative. However, any local income related to assessment of future mining claims on the 36,382-acre designated portion would be lost. Annual harvest of $7,500 worth of firewood could be continued in the nondesignated area.

Livestock use and ranchers' income would continue as at present with $60,320 annually of livestock sales and $15,080 of ranchers' returns to labor and investment.

Increased public awareness of the area resulting from designation could increase nonmotorized recreation use (refer to the Recreation section). Related local expenditures would be small (average of $4.10 per visitor day statewide).

The loss of 36,382 acres now leased for oil and gas in the potentially designated area would cause an eventual loss of up to $109,146 per year of lease fees to the Federal treasury. There could be a loss of $95,436 annually in oil and gas fees in the designated portion from what could be collected under the No Action Alternative. In addition to these lease fees, any potential royalties from new lease production on the 36,382-acre designated portion could also be foregone.

The 5,758-acre nondesignated portion of the WSA could contribute up to $17,274 in Federal lease fees per year along with royalties if oil and gas are produced. Recreation-related revenues could increase if the demand for commercial outfitter services increases. There are presently no commercial outfitters using the WSA.

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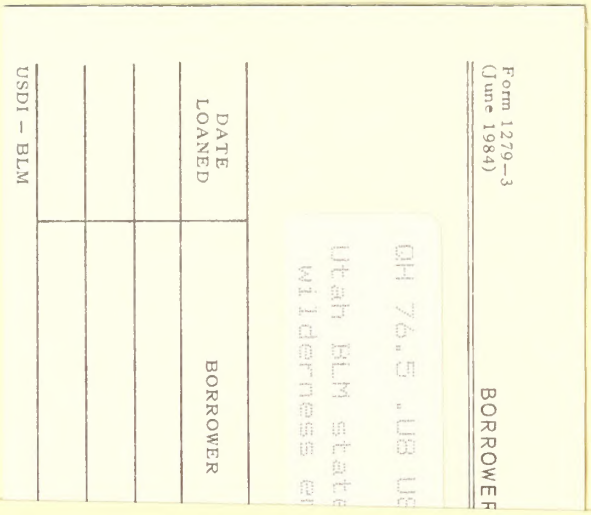


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